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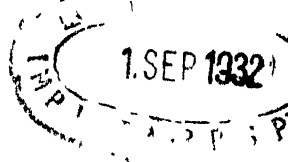
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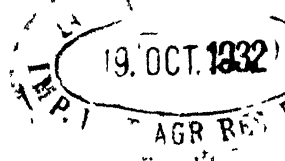
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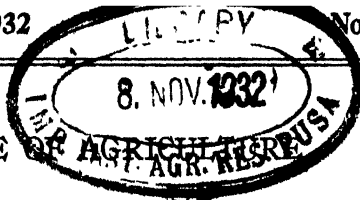
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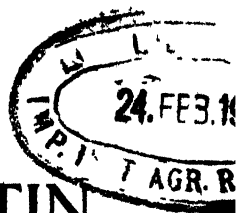
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No. 1

### MARKETING OF AGRICULTURAL PRODUCTS

#### The Agricultural Crisis in 1930-31.

*In the publication The Agricultural Situation in 1930-31 which serves as Economic Commentary on the International Yearbook of Agricultural Statistics for the same year the International Institute of Agriculture presents a survey of the situation of agriculture throughout the world over that period. For the benefit of the readers of the International Review of Agriculture an extract is here published from the part of this Commentary which deals with the situation in general containing a brief survey of the main features in the recent phase of the world crisis in agriculture, the factors by which the course of this crisis is being determined, and the tendencies that appear to stand out from the examination of the facts and figures. For the details of the development which has taken place in 1930-31 in the conditions of the world market of agricultural products, as well as in the agriculture of the separate countries our readers are referred to the Economic Commentary which is shortly to be published.*

In the course of the agricultural year 1930-31 there has been considerable aggravation of that critical phase of the post-war depression on which world agriculture entered in 1929.

Prices of agricultural products which had already considerably declined on the world market continued to fall. The index numbers of the prices of agricultural products in certain countries, which we give below though they can only give an imperfect idea of this movement, at least indicate its intensity.

#### General Price Indices of Agricultural Products

(Base: first quarter of 1929 = 100)

Quarter	England	France	Denmark	Germany	Hungary	Italy
1929 1st	100	100	100	100	100	100
" 3rd	102.8	103	90.7	99.5	79.9	90.2
1930 1st	100.0	80.0	82.2	87.1	68.7	82.5
" 2nd	93.1	71.1	77.6	83.2	61.9	77.2
" 3rd	95.1	69.3	76.6	86.1	61.9	76.4
" 4th	88.9	64.9	69.2	83.1	59.7	69.5
1931 1st	87.5	64.0	69.2	79.9	60.1	63.7
" 2nd	85.4	61.0		81.4	62.4	65.1

Quarters	Netherlands	Poland	Argentina	Canada	New Zealand	United States	
						B A I	B I St
1929 1st	100	100	100	100	100	100	100
3rd	101.4	92.0	101.9	100.1	103.4	103.7	100.9
1930 1st	81.3	78.4	89.5	99.7	80	95.6	92.5
nd	84.6	76.3	88.2	92.6	77.4	91.9	87.3
3rd	86.4	75.0	83.1	78.3	75.3	80.9	79.5
4th	78.9	70.9	66.4	68.6	64.1	77.0	71.5
1931 1st	77.1	64.0	60.1	61.9	57.4	67.6	67.3
nd	78.2	71.4	59.6	60.2	56.7	63.7	63.9

As in 1929-30, the depression in agriculture was closely linked with the general economic crisis, not only by the fact that certain factors in the crisis were common to all forms of economic activity but also on account of the influence which the agricultural situation and industrial, commercial and financial conditions exercise on one another. In fact, the fall in the prices of agricultural products, though it was perhaps generally more pronounced than the fall in the prices of industrial products, was only one of the manifestations of a general tendency which could be seen in all branches of production.

The more or less universal character of this movement may be illustrated by the wholesale price indices in some of the more important countries constituting the world-market.

### General Indices of Wholesale Prices

(1913 = 100)

	France	Germany	Italy (1914)	United Kingdom (1914)	Australia	Canada	United States (B I S)
1913	100	100	100	100	100	100	100
1920	90.8			307.3	227.9	245.6	221.2
1925	155	141.8	152	159.1	169.5	160.3	148.3
1926	157.2	144.4	160.4	148.1	168.1	156.3	143.3
1927	161.8	135.6	161	141.6	167.0	152.7	136.7
1928	169.3	140.0	162	140.3	164.7	150.6	140.0
1929	161.1	137.2	147	136.5	165.7	149.1	138.3
1930	135.5	124.4	98	119.5	146.7	135	123.6
1930 July	157.7	125.1	35	119.2	151.1	134.1	120.3
August	151.9	124.7	39	117.7	148.9	131.4	120.3
September	124.2	122.8		115.5	140.8	128.9	120.6
October	128.2	120.2	164	113.0	135.9	127.2	118.3
November	493	120.1	161	112.0	132.1	124.7	115.2
December	487.6	117.8	150	108.9	128.6	121.6	112.3
1931 January	483.7	115.2	142	106.9	130.4	119.8	110.3
February	481.7	114.0	138	106.2	128.4	118.8	108.2
March	481	113.9	133	105.3	129.1	117.3	106.7
April	483.7	113.7	131	105.7	123.1	116.4	105.0
May	470.1	113.3	132	104.4		114.1	102.1
June	469.1	112.3	137	103.2		112.8	100.3

An examination of the above table shows that, in general, during the years 1925 to 1928, the period preceding the present depression, the movements of prices in the different countries were not uniform, being determined to a large extent by national factors peculiar to each country.

On the other hand, the characteristic of the movement of prices since the

beginning, in 1929, of the present depression, is that the fall is general and seems to affect all countries alike. In fact, since the crash which occurred in the United States money market in the autumn of 1929, there is not a single country which has not felt the effects of the economic crisis which has become, in the fullest sense, a world crisis.

In the Economic Commentary for 1929-30, we tried to indicate the origin and nature of the agricultural depression as an essential factor in the general economic crisis. The examination of the agricultural situation in 1930-31 does not seem to us to reveal any radical changes in the nature of the agricultural crisis. The conditions of world agriculture in 1930-31 differ from those of the previous year only in the spontaneous development of factors already present in the situation of 1929-30 or in the extension and intensification of the activities the earlier phases of which have already been noted. However, the relations between the agricultural depression and the general economic crisis seem to have become closer as the conditions of agriculture became more serious and reacted more strongly on industrial, commercial and financial conditions.

As in 1929-30, the common factors forming the principal link between the agricultural depression and the world economic crisis are monetary conditions and trade policy. The development of these two important factors and their influence on one another during the agricultural year 1930-31 are of particular interest.

Perhaps the most characteristic movement affecting monetary conditions in 1930-31 was the tendency that manifested itself to the concentration of gold in the hands of certain creditor countries, notably the United States and France. In the monetary history of the post-war period this tendency has already played an important part, especially up to the moment of monetary stabilisation in Europe, after which there was a slight redistribution of gold in favour of certain debtor countries of Europe. Thus, from 1925 to 1928, considerable quantities of gold were imported into Germany, and generally during this period there were some changes in the movements of gold which tended to a more equitable distribution of reserves. In 1929, at the beginning of the present depression, the situation in this respect was uncertain and disturbed, strong movements taking place in directions contrary to the tendencies noted in the previous period. The final result was that in 1929 certain countries found their reserves seriously reduced in favour of certain other countries which had become regular importers of gold. Some countries that export agricultural products, such as Argentina, Brazil and Australia, suffered very considerable losses of gold during the agricultural year 1929-30. During 1930-31 a general tendency to the concentration of gold manifested itself in an unmistakable manner and the unequal distribution of the standard metal being thus aggravated no doubt exercised an influence on the conditions of credit, of the monetary circulation and of prices on the world market. In fact, the influence of this factor on the monetary system is so pronounced that some writers seem to see in the concentration of gold, if not the complete explanation, at any rate the principal cause of the present economic crisis, an opinion which is not, however, supported by the facts with which we are faced in 1930-31.

In the following table we give some figures showing the changes that have taken place in the gold reserves, in the rates of discount, in the note circulation and in the wholesale price-indices of the twelve principal countries that imported or exported gold in the agricultural year 1930-31. These figures may throw some light on the part played by the monetary factor in the economic crisis during the most recent period.

*Movements of Gold, of Rates of Discount, of Note Circulation and of Prices (\*).*

	Gold reserves (in millions)		Official rate of discount		Note circulation (in millions)		Wholesale price indices		Changes in the price indices %
	June 1930	June 1931	June 1930	June 1931	June 1930	June 1931	June 1930	June 1931	
Argentina (Pesos, national money)	433	337	...	...	1,814	1,290	...	...	...
Australia (Australian pounds)	19.9	15.2	6-7	6-7	44.0	50.7	152.3	128.1	— 19.2
Belgium (Belgian francs)	6,009	7,171	3	2.50	14,857	15,967	109.4	92.5	— 15.4
Canada (Canadian dollars)	145	167	...	...	174	145	137.5	98.4	— 32.1
France (Francs, notes)	44,052	56,426	2.50	2	72,694	76,927	108.1	95.0	— 12.1
Germany (Reichsmarks)	2,610	1,421	4	7	4,685	4,295	124.5	112.3	— 9.8
Great Britain and Northern Ireland (Pounds, notes)	157.2	164.0	3	2.50	363.6	120.7	120.7	108.2	— 14.5
Italy (Liras)	7,004	7,141	5.50	5.50	15,846	14,683	104.1	(a) 89.1	— 14.4
Japan (Yen)	781	851	5.48	5.11	1,201	1,161	137.0	113.9	— 16.9
Netherlands (Gulden)	492	407	3	2	843	879	118	100	— 15.3
Switzerland (Swiss francs)	579	735	3	2	929	1,078	126.2	110.8	— 12.7
United States (Dollars, banknotes)	3,012	3,383	2.50	1.50	2,056	2,360	124.4	100.3	— 19.4

(a) Bachi.

The examination of these figures seems to reveal a rather interesting situation from the point of view of the influence of the monetary factor on the present development of the economic crisis. It would appear to result from the figures that the movements of gold, as well as the changes in credit conditions and the volume of note circulation, during 1930-31, can only have played a secondary part in the depression, this being caused in the main by factors other than monetary. In fact, it may be noted that, whatever direction was taken by the changes that occurred in the gold reserves, the rates of interest and the note issue, the price-indices invariably fell more or less sharply and the extent of the fall had no relation to the monetary changes. Thus in Germany, where a considerable diminution in the gold reserve led to a rise from 4 % to 7 % in the rate of discount, followed by a reduction of 9.3 % in the note issue, a considerable appreciation of the value of money might have been expected and, consequently, a more or less pronounced fall in prices. In reality, the fall in the index of wholesale prices was only 9.8 %, the smallest fall in any of the twelve countries, nine of which were importers of gold. On the other hand, in Australia, for example, a diminution in the gold reserve, not accompanied by a rise in the rate of discount, which would have compelled a restriction of credit, was followed by an increase in the issue of bank-notes of about 11 %, resulting in a slight monetary inflation. In these circumstances, one would expect a rise in prices, or, at any rate, a slowing down in the fall of prices, instead of which the Australian index-number fell by 19.2 %, one of the sharpest falls amongst the twelve countries that figure in the table. In the United States the substantial increase in the gold reserve served as a basis for an extension of credit, the rate of discount being reduced from 2.50 % to 1.50 %, and for an increase of 14.8 % in the issue of banknotes, but this has not prevented the prices from falling by 19.4 %. Amongst the countries that imported gold, only Canada substantially reduced its note circulation, and this reduction was accompanied by a fall of 32.1 % in the wholesale price-index, a change moreover also contrary to what might have been expected in a country which had increased its gold reserve. All the other countries which imported gold, without a single exception, showed falls in the price-indices varying from 12.1 % to 16.9 %.

(\*) Calculated on the data of the *Monthly Bulletin of Statistics of the League of Nations*.

These facts can hardly be reconciled with the purely monetary explanations of the crisis. They seem rather to suggest that monetary conditions, in the present phase of the depression, only play the comparatively modest part of being one of the many factors that have brought about the situation. In fact, during the post-war years, the monetary factor dominated the economic situation during two successive phases, notably during that of inflation and monetary depreciation, and afterwards during that of stabilisation. This last phase came to an end about 1927, except for certain indirect reactions due in particular to the violence with which it was often carried out, thus preventing the world economy from regaining equilibrium. In the course of the period immediately preceding the depression of 1929, the movements of prices in the different countries, as we have been able to observe from the index-numbers, were not uniform, and prices on the national markets seemed to be determined by the special conditions of the particular countries and in particular by the circumstances in which the monetary stabilisation was carried out.

This situation has changed since 1929. The fall in price since then has become general, and we have just seen that it seems to be independent of the variations in monetary conditions. It seems, in fact, that in this period the economic situation was determined by a combination of powerful influences, economic and other, to which the monetary conditions were themselves subjected. Thus, in spite of the fact that the monetary factor has not ceased to exercise influence on the economic situation, this influence can only be regarded as secondary, inasmuch as the monetary movements themselves are only results of a series of independent causes responsible for the want of balance in the world economy.

This want of balance affects all the manifestations of economic life : agriculture, industry, commerce and finance. The situation of each of these branches is determined, in the last instance, by its own particular circumstances, but there exists, for the whole world economy, a certain sum of general factors, of causes of which the influence is universal (1).

A want of equilibrium is not, in itself, a disturbance of economic life, on the contrary, it may be described as the motive power of an economic system based on competition. A perfect equilibrium would bring about a stationary condition in the world economy, while it is the change in the level of prices, which is only the economic expression of the want of balance between supply and demand, that gives to the economic system such as we know it the stimulus to activity. It is only when the want of balance is perpetuated by some obstacles that prevent the currents of economic activity from taking the channels towards which they are pushed by the difference in the relations between supply and demand, as expressed in prices, or when those activities are turned into artificial channels, that gluts and crises are produced. Thus when we speak of the present want of equilibrium, comparing it with the equilibrium of the periods of normal economic activity, such as the period immediately preceding the war, we are in fact comparing a static and unhealthy want of balance with a dynamic state of want of balance tending always to a state of equilibrium.

This was really the state of world economy before the war. The system at that time may be described as a system of free exchange of the factors of production — enterprise, capital and labour — as well as of the products, qualified by comparatively moderate customs duties, sufficient to protect the most important national industries, and by treaties of commerce regulating the economic relations of partic-

(1) See "The Agricultural Situation in 1929-30". Chap. I.

ular States. Though not a system of free trade in the theoretical and abstract sense in which the expression is used by the liberal school, the system, generally speaking, allowed the productive forces to flow towards the most remunerative employment, thus assuring to world economy a return perpetually tending to the maximum.

The war not only shook this equilibrium, but had economic and political consequences that rendered its re-establishment extremely difficult and led, by a gradual development, to the present economic crisis.

In our review of the situation last year (1) we noted, amongst the general factors of the crisis, the dissolution of the large single markets of the old world, such as Germany, Austria-Hungary and Russia, parts of which have been detached and the present frontiers of which have severed the secular relations of millions of producers and consumers. By the War, and afterwards by the Revolution, an enormous economic system, that of Russia, has been eliminated from the world market as a whole and instead of remaining a regular factor in supply and demand on the markets for products and capital, has become an extraneous factor in the world economy, acting upon it from without and keeping it in a state of uncertainty.

The war has also created, between different countries, in the form of debts and reparations, a vast system of financial charges, resulting from causes other than economic, but tending to determine the main directions in which produce, gold and capital flow.

The monetary disorganisation following the War was another factor that exercised a profound influence on the currents of international trade. When it was particularly the effects of unregulated exchanges that were felt, an improvement was expected from the stabilisation of the currencies, which was generally completed about 1927. However the stabilisation, which was often made at a level above the purchasing power parity of the national currencies and usually carried out with more regard to its financial than to its economic consequences, in many cases brought about new complications, as it established more or less artificial levels of national prices. The countries which stabilised their currencies at a level above their purchasing power parity created conditions favourable for the importation of foreign produce and, conversely, favourable for the export of money. On the other hand, those which adopted a parity below the relative purchasing power of their national currencies stimulated the export of national products and the import of gold. Between these two groups of countries there were bound to be set up, in conditions of more or less free exchange, currents of trade tending to equalise the levels of prices on the national markets. This movement, however, would inevitably have brought the different national currencies to parities corresponding with their respective purchasing power, in place of the artificial values fixed at the moment of stabilisation: a fall which it was sought by every means to avoid for financial reasons rendered imperative, particularly, by the excessive burden of the obligations to foreign countries arising out of the war.

Amongst the measures intended to maintain the exchanges the most important were the customs tariffs, and consequently the import duties, already generally raised above the pre-war figures, under the influence of the economic nationalism which characterises the present epoch, were increased and the trade in produce became more than ever hindered. High duties are sometimes imposed on the importation of products even by creditor countries, the debtors being

(1) *Op. cit.*

thus compelled, when settling their accounts in goods, to accept for their produce prices which, when the import duties have been deducted, are scarcely remunerative; otherwise they must sell their goods elsewhere and pay their debts in cash. In the latter case it frequently happens that, being compelled to sell more or less at any price to obtain the money that they require when payments become due, they increase the disorder in the markets and push prices, already depressed, still lower: a result usually following on the present state of the international obligations arising out of the financial consequences of the war. On the other hand, the trade in produce being hindered, the use of metal in settling international accounts has acquired exaggerated importance.

The movements of gold and its concentration appear thus to be the effect, on the one hand, of the financial charges imposed since the war on certain countries in favour of others, and, on the other hand, of the development of protectionism and of the economic particularism which prevents the circulation of produce.

The agricultural crisis, and above all the relative over-production of cereals in the overseas countries, forced the Governments to increase and to extend protection by import duties and other measures sometimes prohibitive, a phenomenon which has acquired importance particularly since 1929 and, combined with other manifestations of economic particularism, has placed international trade in extremely difficult conditions. The world market has almost ceased to exist. The countries affected by the crisis have entered on a sort of vicious circle, being in no wise able, in present conditions, to renounce the defence of the immediate interests, of the very existence, it may be, of their national producers, against foreign competition, and all of them together by their particularism and by interference with the natural movements of the exchanges, helping to destroy the world market, which alone can assure to the great industries and the great commerce of the modern economic system the possibility of expansion which is their vital need. The want of balance, instead of returning after the war to a dynamic state and tending towards equilibrium by the stimulus it applies to the currents of trade, of productive enterprise and of migration of labour from country to country, has become perpetuated and, entering a static phase, has produced a general depression of the world economy.

Such is the general background against which the different aspects of the present economic crisis must be studied. Amongst these different aspects, one of the most important, as a factor of the situation and as exercising great influence over all the others, is the agricultural depression.

As we have noted, though closely linked with the general economic crisis and sharing with it certain of the most important factors, the agricultural depression has also specific causes which we had occasion to indicate and to examine in the Economic Commentary of 1929-30.

We then examined the conditions in which the relations were established between supply and demand on the world market, and we noted the existence, in the case of certain products, of an over-production in relation to the demand, and, in the case of others, of a tendency in the same direction. An increase of production especially of cereals, took place in spite of a diminution in the demand, and a similar tendency, in forms more or less pronounced and under the influence of the industrial crisis, might be observed in the case of the majority of other agricultural products intended for immediate consumption or for transformation into manufactured goods.

In 1930-31, as during the preceding year, the fundamental fact of the agricultural situation was the fall in the price of wheat on the world market, the reaction of which was felt in all other branches of the agricultural industry.

In fact, the supply of wheat, apart from the stocks already existing in the ex-



porting countries, increased in 1930-31. The world production of wheat amounted to about 1,003 millions of quintals, without counting that of the U. S. S. R. This figure is larger than that of 1929-30, which was only 933 millions of quintals. Moreover, this increase was not merely the result of a crop larger than the average, since the area under wheat also showed, in spite of the crisis, a fairly substantial increase, the figure in 1930-31 being about 100.0 million hectares, as compared with 96.6 million hectares in 1929-30. While between 1928-29 and 1929-30 there was a diminution from 97.9 to 96.6 million hectares, in 1930-31 the area thus abandoned was more than regained by wheat. The increase occurred particularly in Europe, in Argentina and in Australia. On the other hand in the United States and Canada there was a slight diminution. The U. S. S. R., absent from the world wheat market for several years, considerably increased the area sown to wheat. The average area under wheat in the U. S. S. R. from 1925 to 1929 was 29.7 millions of hectares whilst in 1930 it increased to 33.9 million hectares. Owing to a very favorable season, the wheat crop in the U. S. S. R. in 1930 was about 295 millions of quintals, this being a considerable increase on the average of the three preceding years which was only 206 million quintals. This heavy crop enabled the U. S. S. R. to resume the export of wheat, thereby aggravating the situation on the world market. The stocks of wheat in the principal exporting countries also increased in comparison with the previous year. The organisations established in the United States and Canada for the orderly marketing of wheat and the support of wheat prices increased their stocks, which in the two countries amounted in June 1931 to 90 millions of quintals as compared with 66.7 millions in June 1930.

Thus, in 1930-31 the situation of the wheat market was determined by an increase in the supply due to the heavy crop in Russia and the resumed exports from that country, and to the presence of large stocks which weighed on the market.

We noted that during 1929-30 the conditions of the supply and demand of the other cereals were unfavourable to the absorption of a part of the stocks of wheat. From this point of view, there was a certain change in 1930-31, caused by a general diminution in the production of rye and of feed-grains. In fact the figures for the production in 1929-30 and 1930-31 were as follows :

	1929-30	1930-31
	— Millions of quintals —	
Rye . . . . .	254.1	254.4
Barley . . . . .	354.8	345.3
Oats . . . . .	543.0	532.0
Maize . . . . .	1,104.8	969.0
TOTAL . . . .	2,256.7	2,100.7

A diminution of 156 million quintals, or about 7 %, in the production of these four cereals could not have failed to have a more or less marked influence on their prices, had it not been for the existence of large stocks and the fact that, as noted in 1929-30, there was certainly a tendency to relative overproduction of feed-grains due to the diminution of the demand. In fact the influence which the diminution in the production of feed-grains exercised on the price of cereals was only slight and transitory, even in the United States, where the maize crop was very short in 1930 owing to the drought.

The price movements of cereals in 1930-31 may be characterised, approximately but in a manner adequate for our purpose, by the index-numbers calculated as below on the prices of the principal markets: (1)

*Index-numbers of prices of cereals (1926 = 100).*

	1926	1927	1928	1929	1930 (first half-year)	1930 (second half-year)	1931 (first half-year)
Wheat . . . . .	100	87	83	79	72	54	43
Rye . . . . .	100	116	117	99	65	50	40
Barley . . . . .	100	123	123	103	76	58	54
Oats . . . . .	100	115	130	114	91	68	59
Maize . . . . .	100	105	137	130	95	82	62

This statement shows clearly the extent of the fall of the prices in the course of the last two farming seasons, the index-numbers for the first half year of 1931 being for wheat, rye and maize in particular less than half the 1929 figures.

As to the real tendencies in the production of cereals, of which one can only judge by the development of the sown areas, in 1930-31 there are no unquestionable indications as yet of a really significant change. The area of the five principal cereals changed as follows.

	1929-30	1930-31
	Millions of hectares	
Wheat . . . . .	96.6	100.1
Rye . . . . .	19.0	19.6
Barley . . . . .	29.6	29.0
Oats . . . . .	42.3	41.9
Maize . . . . .	76.2	76.4
WORLD TOTAL . . .	263.7	267.0

It will be seen that, in spite of the extremely sharp fall in prices, the extension of the cultivation of cereals in general continued in 1930-31. In the case of wheat, the situation in this respect in the principal producing countries was as follows.

	1929-30	1930-31
	Millions of hectares	
Europe . . . . .	28.4	29.8
United States . . . . .	24.9	24.5
Canada . . . . .	10.2	10.1
Australia . . . . .	6.1	7.4
Argentina . . . . .	6.4	8.0
India . . . . .	12.9	12.8

(1) Wheat — Winnipeg (Manitoba No. 1), Chicago (Hard Winter No. 2), and Buenos Aires (Barletta); rye — Minneapolis No. 2, Groningen (home-grown) and Copenhagen; barley — Winnipeg No. 4, Chicago (White No. 2) and Liverpool (Danubian No. 3); oats — Winnipeg, Chicago and Buenos Aires; maize — Chicago (American mixed), Buenos Aires (Yellow Plate) and Braila (Danubian).

These index-numbers, with the exception of those for wheat prices, differ from those given in the *Economic Commentary* for 1929-30 on account of a change in the selection of the prices utilised in the calculation made with the object of obtaining more representative results.

The adaptation of production to prices met with difficulties in certain regions dependent or nearly dependent on the single crop of wheat, as well as in the European importing countries which endeavoured to find means to enable them to maintain the area under wheat. It is in fact only on the areas sown for the crop of 1931-32 that the provisional statistics make it possible to observe a certain reduction due to the price falls on the world market.

In the grain-importing countries an attempt was made to help home production by means of customs protection, by restrictions on imports or on the use of imported grain in milling, by propaganda in favour of national products, by monopolies of importation or by its complete prohibition. In exporting countries efforts were made to organise the orderly marketing of produce, to regulate the markets or to reduce as far as possible the costs of production so as to enable a profit to be made in spite of the fall in prices. In fact, the attitude both of the Governments and of the organised producers towards the fall in the price of wheat on the world market was essentially the same in 1930-31 as in 1929-30. The measures that were contemplated or carried out in the course of the previous year were continued and extended, according to the needs of the country or group of countries interested. The policy of the various countries towards the crisis became clearly defined in 1930-31, and in certain cases the measures by which it was, or is, sought to combat the crisis or at any rate to check certain tendencies which characterise the depression, have had the opportunity to show their efficacy or, on the contrary, their weakness. The realisation of the true interests of the particular countries in present conditions, as well as of the bonds of solidarity between countries having interests in common on the world market and of international economic antagonisms, has led to attempts at forming economic groups, the component countries of which endeavour to exert an influence on the market situation. In all the international meetings which, in the course of 1930-31, dealt with agricultural problems, this crystallisation of interests, of solidarity and of antagonism has made itself felt in the most unmistakable manner.

Thus we have seen the formation of a group of overseas countries that are exporters of agricultural products, such as the United States, Canada, Argentina and Australia, to name only the most important. These countries, since Russia ceased to play its former part as a regular exporter of cereals, together furnish about 90 % of the supply of wheat on the world market, as well as a large proportion of the supplies of other agricultural products. For these countries, which possess vast regions in which there is no alternative to the extensive cultivation of wheat, and where, generally speaking, the natural and economic conditions favour the development of the cultivation of a single crop, be it wheat, maize, cotton or sugarcane, the most urgent and most difficult problem to solve is that of finding the means of enabling the existing system of agricultural production to be maintained, by ensuring the regular marketing of the crop, by seeking to reduce the cost of production in proportion to the fall in the price of the products and, as far as possible, by encouraging the gradual replacing of unremunerative crops by others which, in the special conditions of the country, may give a higher return.

In this group of countries, in fact, since the beginning, in 1929, of the present depression, the efforts both of the public authorities and of the voluntary organisations of the producers, have been directed to the improvement of the methods of marketing the produce, to the stabilisation of the selling prices and to the rationalisation of production with a view to bringing the cost of production into line with the low prices on the world market.

To this class of measures belongs the step taken by the United States in the

passing of the Agricultural Marketing Act of 1929. This Act constituted the Federal Farm Board with its system of co-operative organisations, such as the Farmers' National Grain Corporation, the American Cotton Co-operative Association, the National Livestock Marketing Association, etc. The object of this organisation, provided with huge financial resources placed at its disposal by the United States Treasury, is on the one hand to create national organisations of producers which may act with a united front on the market, and on the other hand to ensure a certain control of prices, with a view to stabilising them. This latter object necessitated the creation, for cereals, of the Grain Stabilisation Corporation which, with the aid of the credits supplied to it by the Federal Farm Board, has entered the market in the endeavour to eliminate, by purchase and storage, all the surplus that was depressing the prices below what was considered as the necessary minimum and was represented by the prices offered by the Corporation. While endeavouring to maintain the prices of cereals by means of this intervention, the Federal Farm Board sought also to persuade the farmers to reduce the area under wheat and to replace it by other crops, an effort of which the experience of 1930-31, according to the opinion expressed by Mr. Legge, then President of the Federal Farm Board, has shown the futility. In fact the price policy followed by the Board through the medium of the Grain Stabilisation Corporation could scarcely favour the success of such propaganda.

While in the United States the efforts to check the fall in price came from the Government, and the co-operative organisations created under the auspices of the Federal Farm Board owed their origin to official initiative, in Canada there has been truly co-operative action on the part of the producers, the three wheat Pools of Manitoba, Saskatchewan and Alberta, with their central selling agency, the Canadian Wheat Producers Ltd., being voluntary organisations constituted by the farmers on their own initiative. The Governments of the three Prairie Provinces only intervened indirectly in the work of the Wheat Pools, when at the beginning of 1930, the Pools found difficulty in obtaining credit from the banks and the provincial governments agreed to guarantee additional loans up to 15 % of the amounts already advanced by the banks. When, on the other hand, they were asked to guarantee advances on the crop of 1930 the Provincial Governments refused to do so and it was only after a long period of hesitation that a guarantee in respect of these advances was granted by the Federal Government. In all their operations the Canadian Pools acted, notwithstanding this indirect financial support, as free co-operative societies, but their objects are essentially the same as those of the Federal Farm Board, in fact, like the Board, they have aimed at the organisation of marketing and at the stabilisation of prices, primarily that of wheat, by systematically adjusting the supply to the demand.

As in Canada, the efforts to stabilise prices of cereals in Australia were made, in the first instance, by voluntary pools, the attempts to organise compulsory pools having failed. However, since the end of 1930, the Federal Government has intervened by giving guarantees in respect of advances on wheat and thus supporting the initiative taken by the producers' co-operative associations.

We see then, on the part of the principal overseas exporting countries efforts, to organise the marketing of their products — primarily wheat — and to stabilise prices on the world market, on which these countries depend. The efforts made with this object by all these countries during the agricultural years 1929-30 and 1930-31 on national lines are one of the most remarkable features of this period, and are highly characteristic of the present epoch in which it is being endeavoured to establish a system of "organised economy". In 1929-30 we saw the beginnings

of these attempts, the realisation and extension of which in 1930-31 seem to have constituted a very useful fund of practical experience, from which some conclusions may be drawn.

One of these conclusions — perhaps the principal one — seems to be the impossibility, even for the most important exporting countries, to succeed in efforts to check the fall in prices on the world market and to stabilise prices by purely national methods without making agreements with other exporting countries which will bring about concerted action on their part. Failing such an agreement, at any rate between the principal exporting countries, the efforts of single countries are futile and can only lead to expenses which are often enormous and to the accumulation of huge stocks the disposal of which, in the best of hypotheses, is problematical.

During the agricultural year 1930-31 there was abundant evidence of a desire, on the part at any rate of certain exporting countries, to arrive at some agreement with the others. This desire found expression at the Wheat Conference at Rome in March 1931, as well as in the convening in London in May 1931 of a Conference of representatives of the wheat-exporting countries, in which all such countries in the Old World and in the New took part. The Conference did not arrive at any solution or practical agreement; in fact, it served rather to throw into relief the essential differences between the points of view of the various countries whose only common interest is that which they have in the price of wheat.

Even amongst the overseas exporting countries, the attitude towards the wheat problem taken up by the United States, a highly industrialised country with a diversified production and a domestic market which by its capacity dominates the situation and reduces the importance of foreign outlets, could not be the same as that of Canada or of Australia. It is not surprising, therefore, that the United States was not able to tie its hands by an agreement which might, in certain circumstances, restrict its freedom of action.

Another country which does not belong to any group, in spite of the great part which it played in the past and will inevitably play in the future, is Russia. The U. S. S. R. which, during the year 1930-31, reappeared on the world grain-market, differs from the rest of the world in its political economic and social organisation, and apart from its natural interest in the prices of the products that it exports, it occupies a place apart in world economy. Besides, the rapid industrialisation of the country contemplated by the Five-Year Plan incites it to increase its exports, even at the expense of home consumption, whilst the organisation of external trade, as well as the purchase of agricultural products in the country itself, are both based on a State monopoly and make it possible to export at prices below even the present depressed level of the world market and at the same time to make a certain profit for the monopolist Government. On the world market the U. S. S. R. appears, therefore, in opposition to all the efforts that the other exporting countries are making to stabilise prices by adjusting the supply to the demand. In its present situation, the U. S. S. R. must be free to place on the foreign market everything it has available for export, in order to obtain the means of paying for the machinery and materials it must import for its industries. It is this necessity that principally determined the attitude of the Soviet Union towards all attempts made by the countries that export agricultural products to persuade it to adhere to plans of concerted action on the world market.

Beside the overseas exporting countries and the U. S. S. R. must be placed the group of European exporting countries, which includes Bulgaria, Hungary, Poland, Roumania and Yugoslavia. Although these five countries only play a comparatively modest part in the world market for agricultural produce, in their own eco-

nomy, which rests almost exclusively on agriculture, export fills a function essential to their economic and financial prosperity and the present crisis affects them very seriously. Besides, the present depression reduces their power of purchasing the manufactured products they import and thus aggravates the industrial crisis, whilst from the political and social points of view the effects of the crisis in this group of countries present a formidable danger. From another point of view, this group is particularly interesting, as here an attempt has been made to carry out the idea of concerted economic action, an attempt which dates from the Conference of Warsaw held in August 1930. At the meetings of the Commission of Enquiry for European Union, at the Wheat Conference in Rome and at that of the exporting countries in London, these countries have been represented and have shown a united front, their interests being sometimes in harmony with those of the overseas countries, sometimes opposed to them.

This group of countries, being keenly interested in the European market for the disposal of their products, is in a very difficult economic situation in consequence of the depression of prices and the protectionist policy of the European importing countries which tend more and more to reduce their exports.

The programme proposed by the Conference of Warsaw in August 1930, which has been the basis of the subsequent actions of this group, includes measures for improving trade methods in each of the component countries, such as the organisation of national institutions for this purpose, as well as co-ordination of the study of markets made in the different countries. It was decided to summon each year a Conference of the persons responsible for the economic policy of the component countries, in order to co-ordinate their work. It was recognised that it is necessary for the countries composing the group to maintain a common attitude in regard to agricultural questions submitted to international discussion. The Conference also recognised the necessity of approaching the League of Nations, with a view to obtaining the abolition of export premiums and a preferential treatment, on the part of European importing countries, in favour of agricultural products of European origin.

The programme of action thus laid down has served as the basis of subsequent action of the countries of this group, both in the countries themselves and in the course of international discussions, in which the spirit of co-ordination inspiring their efforts enabled the countries of this group to make their influence felt. Thus it was that certain problems, such as that of preferential treatment and the closely related question of the most favoured nation clause, were definitely placed on the agenda of the international meetings dealing with agricultural questions. These are problems very difficult to solve, but the discussion of them serves to throw light on certain important aspects of the existing system of international trade and might lead to important measures of adjustment. In relation to other exporting countries, the demand for preference addressed to the European importing countries, places this group in a position of antagonism, as those countries, which enjoy rights acquired in virtue of the most favoured nation clause in their commercial treaties, will not consent to part with them. However, in regard to measures for the stabilisation of prices by concerted action, the two groups of exporting countries are usually in agreement, but cannot act because of the abstention of the United States and of the U. S. S. R.

Thus, notwithstanding their common interest in the stabilisation of the prices of agricultural produce on the world market, the exporting countries do not represent a homogeneous group which could act together, except in a very limited field. Their interests, as producers, are not identical, owing to the very different parts which

the various branches of agriculture — the cultivation of one cereal or another, cotton-growing, the production of sugar, stockbreeding dairying, and so on — play in their economic organisation, and the fact that certain developments of the markets, while harmful to some of these branches, may be favourable to others. Besides there exist certain rights acquired by the various countries, and they are rarely ready to renounce them in exchange for advantages which may appear to them to be problematical. Lastly, a country while interested in selling to advantage the products it exports, may prefer, for reasons of national economic policy, to reserve to itself complete liberty of action in foreign markets. The result is that, when it is proposed to make an international agreement with a view to the stabilisation of prices necessitating a limitation of the supply of products on the world market by means of quotas more or less rigidly fixed for the countries signing the agreement, unanimity is not attainable and the effort cannot succeed.

At the present time, the exporting countries may be divided into three groups according to the way in which their respective attitudes have become defined :

(1) The group of new countries, in which cultivation is extensive and is primarily for the world market, such as Canada, Australia and Argentina. The countries of this group, which are vitally interested in the price that the foreign buyer offers them for the limited number of agricultural products they sell, are the principal exponents of the idea of concerted international action for the stabilisation of prices on world market.

(2) The group of Eastern European exporting countries, the economy of which is essentially based on small peasant farming and which cannot assure the existence of their agricultural populations under a system in which prices are fixed by the competition of the new overseas countries, with their extensive cultivation. The countries of this group are seeking to obtain a privileged position on the European markets, a demand to which the other exporting countries are opposed on the ground of the rights they enjoy under the most favoured nation clause.

(3) The large countries which export agricultural produce but have a more complex and more highly developed economic system than the new overseas countries, and cannot, therefore, regard agricultural problems in so simple a manner as the countries which depend more or less completely on the export of products. This class includes two countries, very different in their economic and social organisation and in the principles of their policy, but resembling one another in the diversity and abundance of their resources and of their forces of production. These two countries are the United States and the U. S. S. R., which between them were responsible in 1930 for about 44 % of the total area in the world sown to wheat and 40 % of the world production. As to their exports of wheat, in 1930-31, these two countries placed on the world market a total of 59.4 millions of quintal, or about 30 % of the total quantity that entered into international trade.

In these circumstances, it is obvious that the attempts made in 1930-1931 to ensure the maintenance of prices on the world market could not be successful whilst the efforts made by exporting countries on their own markets could only succeed on condition of being supported by international agreements.

The problems present themselves in a very different form in the industrialised countries of Europe which must import agricultural products both for the direct consumption of the inhabitants and for transformation into manufactured articles. In these countries it is necessary to find a compromise between two points of view which it is not always easy to reconcile. On the one hand, in so far as these countries have a more or less important industrial population and industrial production, it is to their interest to obtain imported foodstuffs and imported raw materials at the

lowest possible prices. On the other hand, in regard, at any rate, to the imported products which compete directly, or indirectly by way of substitution, with the products of the agriculture of the country itself, and in so far as the maintenance of agriculture is considered sufficiently important to justify the State in protecting it, the question arises of creating a system which, while safeguarding industrial and urban interests, will also ensure the preservation of the national agriculture. During the great depression at the end of the 19th century, the principal industrialised countries of Continental Europe, in fact, established a protectionist system embracing the manufacturing industries as well as agriculture, in which they endeavoured to conciliate these different interests.

By import duties on foreign products an attempt was made to place the national production, organised on intensive systems, in a position to meet the competition of the extensive production of the exporting countries. The object it was sought to attain was only to equalise the cost of production, which did not then include all the unproductive expenses that have added, since the war, to the cost of European agricultural production. On the other hand, the mechanisation of agriculture overseas on the eve of the War had not proceeded so far as to threaten European agriculture as much as it does at present. Thus the difference between the costs of placing the products on the market was not so great as it is at present and the duties necessary to equalise them were comparatively moderate.

At present the situation from this point of view is very different, partly on account of the increase of various items in the cost of agricultural production, notably the increase of the social and fiscal charges which burden European agriculture and of wages, partly owing to the fact that in Europe agriculture does not lend itself to mechanisation so readily as the extensive cultivation of the new countries, and to the dearth of credit. The difference between the cost of production in Europe, on the one hand, and in the overseas exporting countries on the other hand, is much greater than before the War and even apart from all other political and economic reasons that urge the post-War world to an exaggerated protectionism, this explains a considerable increase in customs tariffs. In fact, the import duties on wheat in force in 1913 and in July 1930 were as follows :

	1913	July 1930
	Gold francs per quintal	
Germany . . . . .	6.79	18.52
France . . . . .	7.00	16.24
Italy . . . . .	7.50	16.50

It will be seen, therefore, how greatly the import duties have increased since the War. During the agricultural year 1930-31, which has been marked by a determined struggle against the fall in agricultural prices which had become very marked and was ruining the farmers in both the importing and the exporting countries, further increases took place in certain countries. Thus in Germany, the general import duty on wheat amounted, in July 1931, to 30.93 gold francs per quintal ; in the case of privileged importation, for the mills, it was 24.75 gold francs, and, for the starch factories, 13.92 gold francs. The import duty on rye in Germany was 24.75 gold francs in 1931 as compared with 18.52 gold francs in 1930 ; on barley the general duty was 24.75 gold francs as compared with 14.81 gold francs ; on oats 19.75 gold francs as compared with 14.81 gold francs. In France the import



duty on wheat remained approximately the same, being 16.32 gold francs as compared with 16.24 gold francs; the proportion of imported wheat permitted in flour intended for bread-making had, however, been reduced to 3 per cent. since the end of 1929, and this is practically equivalent to a prohibition of the importation of wheat. On rye imported into France the duty payable was 7.11 gold francs in July 1931, as compared with 4.26 gold francs in 1930. In Italy during 1930-31 the duties were not increased. All the same, even in the countries in which the import duties on agricultural products were not increased in 1930-31, they had already, at the beginning of that year, been pushed to the furthest possible limit and in many cases had reached figures exceeding the price of the products on which they were imposed. Thus in July 1930 and July 1931, the relations between the import duties on the principal cereals in Germany and the prices of the same cereals on the free markets of London and Liverpool, were roughly as follows

	Price, in gold francs per quintal in London and Liverpool		Import duty in Germany, in gold francs per quintal	
	1930	1931	1930	1931
Wheat . . . . .	20.00	12.00	18.52	30.93
Rye . . . . .	17.00	--	18.52	24.75
Barley . . . . .	11.00	11.00	14.8 to 18.52	24.75
Oats . . . . .	10.50	0.20	14.81	19.75
Maize. . . . .	14.00	8.80	3.09	Monopoly

In Spain the import duty on wheat in 1930-31 was 21.00 gold francs per quintal; moreover, importation was only authorised when the price of wheat in Castile reached 53 pesetas (29.11 gold francs) per quintal, a principle reminiscent of that the former English "Corn Laws". On other cereals the import duties were fixed at prohibitive heights. In Switzerland and Norway the State reserved to itself the monopoly of the export of cereals. In fact, in face of the fall in prices, all countries are endeavouring to surround their home markets with a rampart of duties and prohibitions for the purpose of protecting the national agriculture and the very existence of whole classes of their population that live on the land. Great Britain alone, faithful to its tradition of free trade and not concerned for the fate of the peasant class, which has long since disappeared in this country, where all energies are primarily directed to the achievement of industrial and commercial progress, still left its market open to imports, in spite of the fact that, there also, the current of protectionist opinion was becoming stronger and preparing the revolution in commercial policy that took place in the autumn of 1931. The only important breach in the tariff walls surrounding the markets of importing countries was closed by this revolution in the commercial policy of Great Britain, and in 1931-32 we shall be in presence of a system of universal protectionisms.

Moreover, modern protectionism is not the same as pre-war protectionism, either in its character or in its influence on world economy. It has no longer the character of a moderate safeguard given to it by List and his school; in the determined struggle that is being carried on by the older and more advanced countries against the economic crisis and against the combination of natural resources and technical means with which the new countries are pushing their offensive, protectionism has become fiercer than ever.

And it is not only in the height of the barriers which it sets up against international trade that protectionism of to-day differs from pre-War protectionism; it is also in the increase in the number of these barriers and in the splitting up of the great unitary markets of Europe, to which we have already referred in the "Economic Commentary" of 1929-30 in speaking of the origins of the agricultural crisis.

Thus, in spite of all the efforts that have been made to find a solution for the wheat problem by national measures or by international agreements, the fall in the price of cereals continued to dominate the general agricultural situation. Besides, as we have already noted, the agricultural situation did not depend only on specific factors, such as the relations between the supply and the demand of the various products on the world market, but was to a large extent determined by the general economic situation. In fact, during the year 1930-31, the general economic crisis became much more acute and the consequences were very serious for agriculture and tended to put agricultural production in a more and more difficult position.

Since the beginning of the agricultural depression of the post-war period, as during the agricultural crisis at the end of the 19th century, a tendency may be observed on the part of the farmers to replace cereals by other crops and, even more, to substitute animal husbandry, in the form of stockbreeding and dairying, for arable farming, the returns from which were diminishing under the influence of overseas competition. This tendency was particularly marked in the free trade countries, in which the farmers were left to carry on the struggle unaided. In fact, in England and Wales, from 1871 to 1911 the area under cereals decreased by about 30 per cent., while permanent grass land increased by 42 per cent. During the same period the head of live stock increased by 27 per cent., and that of dairy cattle by 31 per cent. In the course of the post-war depression the same phenomenon may be observed, the diminution in the area under the three principal cereals in Great Britain between 1918 and 1929 having been about a million hectares. The head of live stock, on the other hand, has increased, the maximum number being reached in 1927. In other countries, in which agriculture enjoyed a more or less effective protection against foreign competition, this tendency, at present, as well as during the pre-war crisis, was not so clearly apparent, but, all the same, it was more or less universal, inasmuch as animal husbandry offered opportunities of a better return owing to the improvement that had taken place in the standard of living of the great masses of consumers. Stockbreeding, dairying, poultry-keeping and the cultivation of vegetables and fruit have all developed since the war, partly in response to the demand of new classes of consumers, whose purchasing power has increased particularly owing to the absorption in industrial occupations since the war of large numbers of women, whose earnings increased the family budgets of the working classes.

Seeing that the very possibility of such a development depended primarily on a general increase in the purchasing power of the consumers, a diminution of their purchasing power must inevitably lead to a restriction of the capacity of the market for these products and to a fall in their prices. In a period of world crisis such as the present, the depression of all economic activities naturally reacts above all on the market for the finer products, which, in case of necessity, can be dispensed with, thus reducing the effective demand.

In fact, during the years 1930 and 1931, industrial and commercial activities throughout the world have undergone an extremely serious reduction, the economic crisis having become more serious and more widespread.

In order to convey a more precise idea of this decline in economic activities, some illustrative figures are here given.

Thus, in the index-numbers of industrial production in the principal industrialised countries a very marked decline may be noted (1)

*Index-numbers of Industrial Production*  
(1928 = 100)

	<u>1928</u>	<u>1929</u>	<u>1930</u>	<u>1931 (six months)</u>
Germany	100 0	101 4	83 6	72 6
United States	100 0	107 2	87 4	78 1
France	100 0	109 4	110 2	102 9
Great Britain	100 0	106 0	07 9	87 3 (June)

Only France, in 1930 continued to increase its industrial production partly owing to the conditions created by the stabilisation of its currency at a rate of exchange which has not been forced above its purchasing power parity. However, in 1931, even France felt the influence of the universal crisis.

The decrease in commercial activity in the principal countries for which statistics are available is marked by the fall that may be noted in the figures for railway traffic. In fact the goods traffic on the railways has changed as follows (1)

*Goods Traffic on Railways*  
(in millions of ton kilometres per month)

	<u>1929</u>	<u>1930</u>	<u>1931 (six months)</u>
Germany	5 745	4 556	4 007
United States	59 847	51,357	42 412
Great Britain	2,570	2 429	2,230
Italy	1,017	1 024	910 (5 months)

The statistics of the unemployment resulting from the reduction in economic activity shows even more clearly the extent of the decrease in the purchasing power of the great mass of consumers that must have been brought about by the crisis. The increase in the number of unemployed since 1929 is in fact the most serious feature in the whole present situation.

*Number of Registered Unemployed (in thousands)*

	<u>December 1929</u>	<u>June 1930</u>	<u>December 1930</u>	<u>June 1931</u>
Germany	2 850 8	2 640 7	4,383 8	3 953 9
France	11 2	10 2	22 9	51 4
Great Britain	1,341 2	1 911 7	2,599 8	3 706 8
Italy	430 1	344 2	663 9	597 8

(1) *Monthly Bulletin of Statistics*, published by the League of Nations

In the United States, the index-numbers of the degree of employment, taking 1926 as base (1926 = 100), have changed as follows :

December 1928 . . . . .	95.5
June 1929 . . . . .	98.8
December 1929 . . . . .	91.9
June 1930 . . . . .	85.5
December 1930 . . . . .	75.1
June 1931 . . . . .	72.2

In December 1930, in Germany, of the total number of workers who were members of trades unions, 31.7 per cent. were completely without employment while 16.9 per cent. were only partially employed. In Great Britain, the percentages of insured workers registered at the same date as unemployed were 14.9 and 5.3 respectively.

It may well be imagined to what an extent so serious a crisis must have reduced the purchasing power of the population of the industrialised countries and diminished the capacity of the market for those products in the production of which agriculture has hitherto sought a solution of the crisis in cereals. A tendency to a relative overproduction of milk with a certain reaction on prices was already noticeable in 1929. What takes place in regard to milk, must necessarily take place in regard to the other finer and more costly products of agriculture, the demand for which is very elastic and follows closely the changes in the purchasing power of the great masses of consumers.

In fact, we find that in Germany the index-numbers of the prices of live stock and of animal products (taking 1913 = 100) have changed as follows :

	<u>1929</u>	<u>1930</u>	<u>June 1931</u>
Live stock . . . . .	126.6	112.4	81.5
Animal products . . . . .	142.1	121.7	103.3

In the United States, the course of prices (taking the average of 1909-10 to 1913-14 = 100) was as follows

	<u>1929</u>	<u>1930</u>	<u>June 1931</u>
Fruit and vegetables . . . . .	136	158	114
Butchers' beasts . . . . .	156	134	91
Dairy products . . . . .	140	123	86
Poultry products . . . . .	159	126	81

In the Netherlands, the index-numbers of the prices of animal products, taking those of the period 1924-25 to 1928-29 as base, were 95 in 1929; 77 in 1930, and 71 in June 1931.

In England, the index-numbers of the prices of live stock and live stock products, taking those of 1911 to 1913 as base, were 152 in 1929 and 147 in 1930 (1).

Thus, in the course of the last two years, since the beginning of the present phase of the post-war economic depression, the agricultural crisis has extended to products which, previously still enjoyed a relatively favourable position. This was an inevitable result of the increased seriousness of the general economic crisis, which has reduced the purchasing power of the masses in face of an increase in the supply of the products of intensive and costly cultivation.

The crisis having thus become more acute and having extended to branches of agriculture that had previously been more or less sheltered from the general depression, the farmers are in a position that is all the more difficult inasmuch as the cost of production cannot be reduced in proportion to the fall in the prices of agricultural products. Although, as a result of the fall in the prices of industrial products, certain materials and instruments of production may cost less, and certain economies may be possible in wages, either by their reduction or by the rationalisation of labour, there are factors in the cost of production that do not lend themselves to such a reduction. Taxation, which is particularly heavy in the countries that took part in the War and are undergoing the consequences; the social charges resulting from the spirit of modern social legislation, and, lastly, the burden of mortgage debts, the amortisation of which represents a fixed item in the expenses of agriculture, and of short term loans which, in many countries, especially in Central and Eastern Europe, can only be obtained at usurious rates of interest, all these items are represented by fixed and irreducible figures. In these conditions it is only natural that the farmer frequently finds himself unable even to cover his expenses and that, in fact, in many cases agricultural production results in actual loss and is only carried on by drawing upon the working capital, which is swallowed up by the crisis.

GEORGE PAVLOVSKY.

## BIBLIOGRAPHY ON ECONOMIC AND SOCIAL QUESTIONS

SCHIMMT, Alfons: *Die Weltwirtschaftskrise*. Junker und Dünhaupt Verlag, Berlin, 1931. (*Wirtschaftsprobleme der Gegenwart*, No. 15) (Pp. 70).

[The author starts from a brief survey of the developments leading to the present world crisis, and then gives an account of the course of the depression in Germany, England, the United States and France. After this he proceeds to the examination of the supposed and the real causes of the crisis. From the outset, the author makes his own view of the nature of the crisis clear, saying that, first and foremost, it is determined by the usual course of cyclic fluctuations, but that in the present case the situation is complicated by the simultaneous action of other factors, some of them structural. Among these latter, the agricultural crisis is the most important.]

The search for the causes of the crisis has led to many erroneous conclusions and to the recommendation of remedies the practical application of which was sometimes dangerous. The author rejects the view which explains the crisis and the growth of unemployment by the rapid rationalisation of industries. The saving in labour achieved in some branches of production, unless the natural process of adjustment is impeded by obstacles put in its way, brings with itself the cure of the evils it has created, though it may and does cause temporary unemployment. The present trouble is due not to rationalisation as such, but, in the first instance, to the lack of capital and the uncompromising attitude of trades unions to any reductions in wages, necessary to effect the adjustment. Equally mistaken is the theory which attributes the present crisis to the excessive increase in productive investments at the expense of the resources available for the purchase of articles of immediate consumption. The author also refuses to accept the explanation of the crisis by the great increase in the proportion of people who live on industrial earnings, as well as by the rapid industrial development of the colonies. The real cause of the crisis, according to the author, is to be found in the course of cyclic fluctuations due to a complex system of causation, and at present aggravated by certain structural maladjustments inherent in post-war economy. The heavy fall in prices which distinguishes the present depression is accounted for by increased offer of goods on

a market whose effective demand diminishes. This diminution in the effective demand is produced by cyclic fluctuations, and makes itself felt in both industry and agriculture. In agriculture, the cyclic depression is most strongly felt by the branches producing raw materials of manufacture, as for these the demand is more elastic than for the staple articles of consumption. Agriculture is pushed to rationalisation, while with the fall in prices the marginal producers are being eliminated. This produces a great disturbance in the economic system, as adjustment is rendered difficult by various causes, and especially by the deliberate interference with economic processes by means of customs duties valorisation schemes and other expedients. The agricultural crisis was delayed in its coming by these measures, and when eventually it came, it happened to coincide with the negative phase of the business cycle, thus greatly aggravating its effects. In certain important branches of industry the author recognises the presence of over-production. While he considers that the rôle of the monetary factor in the crisis is often exaggerated, he recognises the importance of monetary conditions in the present situation. Interference with the free play of economic forces, in all its various forms, he places among the important causes of the present economic difficulties.

The most effective remedy against the depression is to be found in the economic system itself, if left free to work its own salvation through the working of the mechanism of prices by which economic adjustments are effected, and a wise economic policy is the one which helps this automatic adjustment.

This small book makes interesting reading and gives food for thought on some of the most vital problems of our day].

H. BELSHAW, M. A (N. Z.), Ph D (Cambridge) : The Provision of Credit, with special Reference to Agriculture with two chapters upon the Provision of Rural Credit in England by R. R. Enfield. (VIII+326 pp., W. Heffer & Sons, Ltd, Cambridge, 1931).

[The book under review, written by the Professor of Economics and Dean of the Faculty of Commerce of Auckland University College, "has been undertaken in an endeavour to meet the need" . . . "for a book which combines an analysis of the nature of the credit problem as it affects farming industries and a critical account of some of the more important types of credit intermediary". Accordingly, the author begins by introducing his readers to the fundamental concepts of capital, credit and the supply and demand of credit facilities in general, and then proceeds to examine the credit problem in its special application to the agricultural industries. In this second part of his treatise, dealing with the Problem of Rural Credit, he dwells at length on the peculiarities of agriculture, in so far as they affect its credit needs and the supply of facilities by which they can be met, and classifies the types of rural credit according to three different principles, namely according to purpose, to length of loans and to nature of security. While accepting this threefold classification as essentially sound, one cannot help feeling that the coupling of the types in the grouping according to purpose under (a) — Settlement and Development Credit — and under (b) — Production and Equipment Credit — can hardly be accepted, as in both cases two essentially different forms of needs and of credit facilities are concerned. Settlement requires long-term credit on mortgage of holding, while development credit may take three different forms, according to the nature of the operations to be financed : the need may be met by a general land mortgage, by a suitable form of improvement or reclamation loan, or by intermediate credit. In the case of production credit short term loans generally meet the requirements, the need being in working capital, while to pay for farm equipment one has to have recourse, as a rule, to intermediate credit. Thus in any systematic arrangement these four different forms ought to be kept separate.

After having expounded the elements of the rural credit problem, Prof. Belshaw proceeds to examine, in Part III, Long Term Credit Agencies. Among providers of long term credit to agriculture, he examines first the "outer market", that is the, provision of loans by private persons, mostly sellers of holdings accepting mortgages for part of the price, by dealers and by insurance, trust or loan companies investing their balances in farm mortgages. Then he deals with long term loans by commercial banks, and finally comes to the special land mortgage institutions. Here, in the first instance, he deals with the German *Landchaften*, and then takes up the U. S. A. Federal Farm Loan System, analysing its organisation and principal characteristics. Finally, we find a very interesting account of the organisation of long-term credit in New Zealand, from the private sources of mortgage credit on land and the rôle played by commercial banks to the activities of the Long Term Mortgage Branch of the Bank of New Zealand, the State Advances Department and the Public Trust Office. In New Zealand, we are

told " it is desirable, in the social interest, that resources should move more freely into agriculture. In part, this end would be achieved if the disabilities under which large financial institutions labour as the result of the present system of company taxation were removed, but of greater importance is an improvement in the basis of farm mortgage security and the development and extension of institutions especially constituted to meet the particular needs of long term farm finance ". A chapter on Long Term Credit in Great Britain, by Mr. Enfield, concludes this part of the book.

Part IV, dealing with Short Term and Intermediate Credit Agencies, follows the same plan as the preceding Part, starting from an examination of private sources of credit and commercial banks, and then giving an account of co-operative credit institutions of the Raiffeisen and Schulze-Delitzsch type, with some observations concerning the failure of these to take root in Anglo-Saxon countries. A special chapter is devoted to the organisation of intermediate credit in the United States under the Agricultural Credits Acts of 1923, while in another an account is given of the organisation and working of short term and intermediate credit institutions in New Zealand. Short term agricultural credit in Great Britain is dealt with in a chapter written by Mr. Enfield.

The Appendices contain a Note on Amortisation, a short account of the history and organisation of the *Crédit Foncier* in France and notes on agricultural credit institutions in South Africa.

The book, which avowedly does not pretend at covering more than a part of the ground of the agricultural credit problem, can be recommended as a succinct and reliable source of information on the subjects it deals with.

MÜLLER (Prof. Dr. August) : Die Deutsche Volkswirtschaft. Die gestaltenden Kräfte und das Wirtschaftsbild. Verlag der Deutschen Buchgemeinschaft. Berlin 1931. Seiten 342.

[The crisis which at the present time is so severely affecting German economic life makes it the more imperative to take stock, as it were, of the form assumed by the national economy, noting the elements that are most affected, and those which can most successfully put up a resistance against the general depression. This book is calculated to give such information in the best possible way. Dr. Müller was for a long period a member of the *Reichswirtschaftsrat* (Economic Council of the Reich) and hence has had the opportunity, as well as from his collaboration on the *Enquete-Ausschuss zur Untersuchung des deutschen Wirtschaftsleben* (Committee for the study of the economic life of Germany), of becoming thoroughly acquainted with the various forms and problems of the national economy.

The analysis of the economic structure of Germany is undertaken by the writer on completely objective lines, and as far as possible he abstains from pronouncing judgments, whether political or social. The reader is thereby made acquainted with the economic facts, while no attempt is made to influence his opinion or his attitude. Each branch of the national economy — agriculture, industry, trade, business — is not merely separately characterised but also as the complementary part of the whole system, and thus the general view of the whole is never lost. Much of interest is to be found in the volume in regard to the forms of organisation, alike of industry and of agriculture, the price formation of agricultural products, the supply of and demand for foodstuffs in the country and the possibility of meeting the demand by home production, the grouping, professional and social, of the German people, the phenomenon of birth control and its effect on the economic life, etc.

Dr. Müller discusses the economic system now prevailing from the sociological and evolutionary point of view, and assigns to it a certain historic importance only. In course of development it must give way to another form of economy, just as the feudal economic order formerly gave place to the existing order.

"A tour of German economic life" is the description given by Dr. Müller to his book, and the survey thus made, partly owing to the admirable style of the author, undoubtedly combines instruction and interest to a remarkable degree].

ORR JOHN. Grass and Hay Farming. An Economic Study. Manchester University Press, 1931, pp. 38, 4 plates, 3 diagrams.

[The object of the writer, who is Chief Agricultural Advisory Officer at Manchester University, is to stress the importance of grass as a crop in Great Britain, to indicate the needs of the soil for production of satisfactory grass crops, and to show that the investment of capital on the lines dictated by these needs is remunerative and with proper management may return a high rate of interest. It is usual to deplore the change which

has come about in Britain from arable land to permanent grass. What is to be deplored in his opinion is that the money that might be made out of grass and hay is not being made, partly from want of knowledge, but more largely from want of management and enterprise.

Good grass is recognised by all farmers to be the foundation feed of cattle from weaning till the period of fattening. The weedy and inferior condition of much of the pasture of Britain, however, renders it almost inedible, and consequently the stock or dairy farmer finds himself compelled to spend disproportionately on cake and meal.

Precise figures are supplied and illustrated by some effective graphs in regard to a farm where a change in the system of management of the grass and hay land effected a very remarkable increase in the returns over the four year period 1927-30, passing from a *loss* of 53.9 per cent. in 1927 to a *gain* of 78.6 per cent. in 1930 on the enterprise capital, *i. e.*, capital invested over and above the capital that must be engaged if the farmer is to farm at all, this latter being described by the writer as "routine capital". This striking transition from a large minus to a large plus return was due to the fact of the changed "direction" of the expenditure. In other words, instead of merely following the established custom of applying farmyard manure to the grass fields, the actual requirements of grass as a *crop* were taken into consideration, and accordingly generous applications of lime, phosphate, potash and nitro-chalk were successively made. The value of the grass rose from £1 13s per acre in 1927 to £12 1s 7d in 1930, while the expenditure on purchased feed per cow fell from £15. 0s. 10d in 1927 to £8. 3s. 9d. in 1930, or a 45.5 per cent. reduction. The net result is, as already stated, that instead of a loss of 53.9 per cent. on the capital employed in obtaining grass, there was in 1930 a gain of 78.6 per cent. on this capital, or if the sum gained per acre by sale of the farmyard-manure thus saved, *viz.* 11s per acre, be added, then a total gain of 86.75 per cent.

The writer goes on to point out that the treatment here described, applied to the whole area of the farm, as well as the meadows and pasture, although bold and comprehensive, does not cover all that it is possible to do in this direction. In addition to scientific manuring, improved methods would include some attempt to modify the botanical composition of the pasture by seed and the application of mechanical cultivation to grassland. The inferiority of grassland is most often due to the presence of valueless plants, which are left ungrazed by the cattle, die down and form a "mat". This mat checks the next year's growth and prevents the proper action of the soil. From the economic point of view therefore this mat wastes the farmer's money. As the writer says: "Between the capital which the farmer invests in his soil and grass, and the capital which he invests in his cattle and sheep there should be the closest and most active co-operation. The first portion of the capital cannot bear its fruit except through the second, but they never meet, the first is lost on the way to its object". However scientific may be the manuring if the fertilisers cannot, on account of the presence of the mat, penetrate properly into the soil, the expense of fertilising is thrown away. "A survey to determine how much of the permanent grass and hay in Great Britain is grown on top of a wasteful mat would reveal a serious position".

Elimination of the "mat" can be effected by severe although not necessarily deep cultivation, followed by seeding with active and nutritive grasses and, if desired, with clover, accompanied by suitable and adequate fertilising. To complete the process of displacement of the old unprofitable pasture, grazing and mowing should be carried out in rotation, somewhat on the lines now adopted on New Zealand dairy farms with highly satisfactory results. In this way there might gradually disappear from English landscape the discouraging sight of fields stocked but not grazed, the cows either ranging the fields in search of food that is not there, or gathering at the gate waiting for the provender to be brought from the cowhouse. As Mr. Orr adds, this "makes no money".

There can be little doubt that the main agricultural wealth of Great Britain must henceforward lie mainly in live stock products. In 1925 the estimated value of the live stock, milk and dairy produce, and wool sold off farms in the United Kingdom was £182,367,500 or 63.7 per cent. of the value of the total agricultural output, and as the writer has shown in this brief but pithy monograph "the foundations for development in this direction are sure and wide".

KLAUDER G. Dr. Grundsätze zur landwirtschaftlichen Betriebsstatistik. Theodor Steinkopff, Dresden und Leipzig, 1931, Pages 86 (Beiträge zur landwirtschaftlichen Betriebswissenschaft, Heft 2).

[The writer first defines the object of statistics of farms based on accountancy data as being of value in questions alike of organisation of the farm, of the advisory service on professional matters, of scientific work and of agrarian policy.



The writer first outlines the various purposes which may be served by farming statistics based on accountancy data, showing their value for farm organisation, for the agricultural advisory service, for scientific work and for agrarian policy. He then proceeds to explain the statistical methods, analyses them on the basis of the results published by the Accountancy Offices in Germany and makes suggestions as to the choice and adaptation of statistical principles the most appropriate from the point of view of rural economy and agrarian policy. Any tying of oneself down to figures must however be avoided. For a full understanding of statistical data and capacity to use them properly a thorough knowledge is required of the natural and economic conditions in which the data have been obtained. Any mechanical application apart from a critical insight into the figures results in false conceptions and may lead to serious error.

The work includes chapters on averages, on the grouping of farms, on statistical errors, degree of intensity, delimitation of economic regions, the employment of statistical results for the objects of agrarian policy and for advisory work in agriculture. The handling of these subjects indicates the methods and the limits of elaboration and of employment of statistics based on farm accountancy data, wherein to a greater extent than in other statistics attention is paid to the comparability of the data and to the facts which they represent.

The whole work is a valuable contribution to the improvement of statistical investigations based on farm accountancy].

MARRANI (Pelio, Ingegnere industriale, Perito Commerciale Capo dell'Ufficio tecnico della Confederazione Nazionale Sindacati Fascisti Industria) : *Organizzazione industriale*, with 138 graphs and 32 tables

[Economic science in the 18th and 19th centuries began by investigating the principal laws that govern the capitalist economic system, and therefrom has gradually proceeded to enquire into the principles that have validity for separate economic units such as the industrial undertaking and give these their distinct form. Some hundred years after the appearance of the "Wealth of Nations", that epoch-making work was followed by Taylor's "Shop Management" and "Principles of Scientific Management". In these the author, on the basis of his own prolonged and precise observations of manufacturing processes carried out in factories, indicated the conditions of production and the methods of work calculated to render more systematic the general process of production and to increase considerably the degree of efficiency in work.

The book under review is also an exposition of these ideas in regard to rationalisation of production and organisation of industry on scientific lines, and is largely based on the views of Taylor and his school. It represents however in part an expansion of "Taylorism" and in part a more complete application. A precise and logical investigation is made of all the factors, whether material or psychological, that create favourable conditions for the processes and ensure the best possible results to the manufacturer, while not involving any prejudicial effect on the permanent productive capacity of the worker. One-third of the book is devoted to descriptions of the different methods of remuneration and to discussion of the practicability of their employment as well as of the advantages and disadvantages of each in turn. Considerable space is given to industrial hygiene, the psychological reactions of the worker, selective tests of workers, measures taken to prevent workers' accidents, etc. In connection with all these subjects, the recent Italian legislation, as laid down in the *Carta del Lavoro* since April 1927, is introduced and explained. The problem of technical rationalisation thus passes beyond the narrow limits of the single undertaking and becomes an important social problem of the present time, the significance of which was not fully realised by Taylorism in its original form.

The book will be welcomed by the manufacturer, and so far as the ideas it contains can be usefully applied to improved organisation of agriculture, it may be studied by the enlightened farmer also with profit].

LEPPAN Prof. Hubert D. : *Agricultural Policy in South Africa* Johannesburg, 1931, pages 101.

[This short treatise is a survey of the farming situation in South Africa and an attempt to indicate the agrarian policy which is really consonant with the geographical and climatic controls affecting the development of the sub-continent. In his earlier work "Agricultural Development of Arid and Semi-Arid Regions" published in 1928, Prof. Leppan dealt fully with the subject of these natural controls, and here only a brief

summary of the main facts is given, as regards the unreliable rainfall, high evaporation, extensive losses from erosion, formation of alkaline soils, as well the natural disability arising from the absence of inland waterways.

It is the writer's view that the instability which characterises the agricultural production of the Union and reacts on its industry and commerce is largely due to these natural causes, and in particular to the incidence of droughts. Provision against risks of this kind is a serious factor in production costs, tending to make difficult all capital investment in stock, equipments, manures, etc. As a further result of the uncertainty of outlook there are wide fluctuations in distribution and hence in prices. A sound agricultural policy should aim at stabilisation of the position. In Prof. Leppan's opinion "the present policy in the Union in fostering the production of grain for sale is basically wrong". He points out that where, as in South Africa, the influence of natural controls is erratic the live stock industries involve the least risk, the obvious reason being that animals can be moved about whereas crops cannot. Moreover, speaking generally, the natural conditions of the Union are not favourable to grain growing; more than 80 per cent. of the country can never be used except for grazing, and accordingly any stabilisation of the position depends on pasture improvement together with the production wherever possible of supplementary fodder crops. To attempt to grow cereals under irrigation in the Union is merely to aggravate the position by adding heavy charges to the costs, thus making even more impracticable the competition with the great grain growing regions of the world. On the other hand irrigation may be profitably applied, even on areas subject to frost, to produce fodder crops for consumption on the farm or in the immediate neighbourhood. Such crops eventually enrich the soil, whereas cereals grown for export are robber crops.

In other words the South African farmer is most likely to succeed if he aims at placing livestock products of good quality, either on the markets of the industrial centres of the Union itself or on the export market, and the writer urges that all possible measures be taken to encourage such an orientation of agriculture.

In his criticism of irrigation schemes, the writer does not omit to recognise the increasing importance of citrus fruit growing under irrigation, but points out that areas put to this use are necessarily frost free, and consequently enjoy the longer growing season which brings an advantage in production. A striking table is given showing that the value of production from irrigated land is in direct correlation with the frost-free period. Irrigation in South Africa can however never approximate to the importance it has in India or California, the extent of potentially irrigable land in the Union having been estimated by experts at not more than three million acres, probably most profitably exploited by small scale private irrigation schemes rather than by large public undertakings.

The vigorous handling in this book of the problem of agricultural policy has aroused a very general interest in South African farming circles and it is probable that it will do much to strengthen tendencies which are already making an appearance in the farming practice of the more enlightened section of the Union agriculturists.]

KRISCHANOWSKI, M. Die Planwirtschaftsarbeit in der Sowjetunion. Verlag für Literatur und Politik. Wien-Berlin, 1927, S. 124.

GRINKO, G.: Der Fünfjahrplan der Sowjetunion. Verlag für Literatur und Politik. Wien-Berlin, 1930. S. 288.

KNICKERBOCKER, H. R. The Soviet Five-Year Plan, its Effect on World Trade. John Lane The Bodley Head Ltd. London 1931. Pp. 245.

[The national economy of Russia has since the beginning of the Revolution passed virtually through three important periods.

From 1917 to 1921 was the epoch of the so-called war communism. Formally speaking, the new State succeeded in getting into its own hands practically all the public organisations alike for production and for distribution of products. The actual outcome however was a disastrous shrinkage of the national resources.

It was therefore essential in 1921 to have recourse to a new economic policy (NEP) by which it was intended to leave more scope to private initiative. This new departure had had a considerable success, and there was a slow but a steady re-establishment of the national economy and of the general vital forces of the country. This progress, however, due to private initiative, was made at the expense of the communist principle.

In 1927 a new system of economic policy was inaugurated, which was intended to combine, so far as possible, the elements which in the two earlier periods had contrib-

uted substantially to the development of the socialist State : in other words the endeavour was now to combine the communist principle of the first period, *viz.*, the monopoly, by the State, of the entire economy, with the idea of economic development that characterised the second period. By this means it was hoped to give a strong impetus to the national economy, while forcing it, at the same time, along socialistic paths, and regulating and determining its working in advance, alike as regards the nature of such working and the extent. Such are the general ideas which form the basis of the Five Year Plan, and are characteristic of the whole economic life of the Russia of our own times.

The literature relating to this third period is already very extensive. The three books the titles of which appear above, two by Soviet officials, taking part in the execution of the Plan, and one by an American, illustrate this plan from different sides.

KRISCHANOWSKI, the head of the State Office for the carrying out of the Five Year Plan, gives us in his work the economic results of the ten first years of the Soviet Government (1917 to 1927). These first results represent the basis on which the economic structure of the Five Year Plan has been built up for the years 1928 to 1933. The figures of production are compared by the writer with the pre-war figures. A description is also given of the development on industry, agriculture, foreign trade, etc. It is explained that the problem of the method to be followed for the realisation of the Five Year Plan has been, ever since 1921, the subject of study by the various scientific institutions as well as of public discussion, also that since 1923 the Five Year Plan in all the branches of industry has been subjected to a detailed analysis by the Commission for the realisation of the Plans (*Gosplan*) of the U. S. S. R.. It was however only in 1925-26 that it proved possible to establish the first scheme of financing and of the mass production of the large and medium industries. The schemes drawn out for the execution of the Plan are not, according to KRISCHANOWSKI, abstract theories but spring from a close contact which has been maintained between the scientific work of preparation of plans, and the practical labours of a number of economists. They are accordingly, so to speak, steeped in reality and can stand the test of practical life.

All who desire to obtain in a short time a clear idea of the economic movement in Russia during the first two periods of the Russian revolution, will find in this work the official presentation of the facts and the corresponding figures.

GRINKO, at present the Commissary of the Finances of the Union, describes the genesis of the Five Year Plan and the way in which this plan takes shape in the different branches of the national economy. The final object of the Plan is to transform Russia as soon as possible so that from being an agricultural country, industrial only in the second place, it will become an industrial country in which however agriculture will retain an importance of the first order. It is anticipated also that the Five Year Plan will bring about psychological conditions by encouraging the impulse to create and by stimulating the will power of the population.

The most difficult problem presented by the Plan is the regulation of the agricultural production which extends over more than 20 million peasant farms. The author states that the collective treatment of the farms, and the social transformation of the village, are alike making rapid progress. According to the Plan, from 5 to 6 million individual farms with a cultivated area of 22 million hectares will have to be collectively organised by the end of 1933. As early as 1930 there were already some six million farms, accounting for an area of more than 30 million hectares, which were managed on a socialistic basis. The area under cultivation is to be increased by 26 per cent. in 1933 by means of bringing virgin lands under cultivation. The total production of agriculture and stock breeding will have to be increased by 55 per cent. The cereal export should in the same time increase by a total of five million *pouds*, and consequently reach some 80 per cent of the pre-war exports. Machine production should go up from 125 million roubles in 1927 to 610 million roubles in 1932-33. Tractor factories with an annual output of 50 000 tractors per factory are also under contemplation, and in a few years it is expected that the Union will hold the first place in tractor production. It is true that for the moment it is still necessary to import many machines, raw materials and semi-manufactured products. If the Plan is not to suffer, this necessity for importation makes it absolutely necessary to increase also the exports of naphtha, timber, furs, etc., and also of food stuffs, although the interests of national consumers do not always and everywhere allow of this. To quote the writer. "The partial difficulties of the food supply are of a temporary and transitory nature". According to the writer no one in the U. S. S. R. doubts that, in the sphere of provision of the food supply, difficult moments can be surmounted within a relatively short

time, as the result of the economic progress achieved by collectivist agriculture (p. 256). Somewhat further on, GRINKO expresses himself even more clearly and more concretely in this respect: "If in the solution of the food problem the consuming interests of the social strata which are not proletarian, and still more of those strata which are not co-operating in the Soviet society, are injured, this fact cannot harm the socialist structure of the U. S. S. R. The line dividing the proletarian class from the others is not to be altered or obscured when it is a question of solving problems of food supply in a moment when all factors seem adverse" (p. 257).

KNICKERBOCKER, who is an American, travelled through Russia as correspondent of the *New York Evening Post*, and collected information on the spot. His account of his travels resembles an instantaneous photograph but one taken in a good light. He is full of admiration for the grandiose nature of the Five Year Plan which he describes as "a grandiose scheme, the most gigantic economic project in history, the most pretentious attempt ever made to put the planning principle into effect.", etc. He illustrates the striking results obtained on the basis of figures and calculations. *Inter alia*, he speaks of the great Soviet farm "Gigant" in the Northern Caucasus, which covers 642,000 acres of land and gives employment to some 3,000 permanent workers.

He also explains the necessity for Russia to export goods even, as he says, below production costs, e.g., cereals and coal. In view however of the depreciation of the Russian money, the exportation confers a certain advantage.

In general the impressions of the writer tend to show that, as the result of the Five Year Plan, the national economy of Russia is becoming more and more powerful, but that at the same time standards of living of the great mass of the population are still extremely low. The book is easy to read and well set out and the matter is both interesting and instructive].

KOLÁR Dr RUDOLF: Zemědělské pojištění u nás a v cizině (Forms of agricultural insurance in Czechoslovakia and in other countries) Czechoslovakian Academy of Agriculture, Prague, 1930, 216 pages, numerous tables and graphs. (Summary and text of tables and graphs in Czech, German and French.)

[This is a careful and well documented enquiry into a problem under discussion at the present time in Czechoslovakia the organisation of hail insurance and of livestock insurance in accordance with the principles of public utility. Forms of such insurance have to be discovered likely to be most suitable to the conditions of the country. It is not possible to render obligatory to the same extent all kinds of insurance, in view of the different character of the risks. The insurances mentioned must be based on the principle of mutuality.

The work includes a thorough and detailed analysis of all aspects of the problem, conclusions and proposals as to the systematic organisation of insurances, and a wealth of material in regard to forms of insurance not merely in Czechoslovakia, but also in many other countries. It is accordingly a work of much originality and is of considerable interest both from the national and from the international standpoint].

Meliorační úvěr v Československé Republice (Land Improvement Credit in the Czechoslovakian Republic), Ministry of Agriculture, Prague, 1931, 33 pages. (Summary in French and in German).

[This brochure contains information of some interest on the method of financing the land improvements which have been carried out in Czechoslovakia in the period from 1919 to 1930 and on which the total expenditure amounted to 1,780 million Czech crowns. It also outlines the programme of improvement works designed to cover the next ten years which are estimated to cost three and a half milliards of Czech crowns. To meet these requirements a State Fund for land improvements has been established by the law of 27 March 1931. This organisation which is a self-governing corporate body will have the right to raise the necessary funds for long term credit. Special interest attaches to the terms of this law and to the programme of land improvement works for all persons dealing with questions of land improvements and the financing of such operations].

PUBLICATIONS OF THE AMERICAN SOCIOLOGICAL SOCIETY. — Volume XXIII. The Rural Community. The Chicago University Press, Chicago, Illinois.

[The American Sociological Society has published a highly interesting volume containing a number of studies, surveys, notes both sociological and statistical relating to the "Rural Community".

The subject matter is arranged under the following heads: Division of Human Ecology and Population, Division on Statistics, Division on Social Psychology, Division on Social Research, Section on Rural Sociology, Section on Educational Sociology, Section on the Family, Section on the Community, Section on the Sociology of Religion, Section on Sociology and Social Work.

Reports from the various Committees of the Society conclude the volume. Each division and section contains abundant material of research, and a number of statistical tables show the systematic care which has been taken by the authors of a great many of the above studies in supporting their conclusions or suggestions by ascertained facts and tabulated figures. The volume gives the impression however that a great deal of work remains yet to be done before the sociological problems affecting rural life can even be said to have been clearly defined. Sufficient statistics, even those of an official character, appear to be lacking in a number of cases or to be too recent to permit final conclusions. There is much material in this field which thus far appears to be mostly theoretical.

Some of the studies are accurate historical accounts of the trend of sociological events in rural communities which tend to show that further developments may be expected. Such problems as the interrelation between urban and rural life appear on the contrary to have been clearly defined in all their favourable and unfavourable reactions. Other subjects treated are not confined to rural conditions, but deal with sociological problems of a general character. Such are the articles on family life in America of which their authors give a rather dark picture.

On the whole this volume published by the American Sociological Society is a source of information on Rural and Urban Rural life in the United States of considerable importance].

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### CO-OPERATION

#### Agricultural Co-operation in Norway.

##### INTRODUCTION.

Except as regards the co-operative dairy societies there was towards the end of last century still very little development of agricultural co-operation in Norway. The very low density of the population, the geographical character of the country, with its mountains, forests and deep fjords making communication difficult, go far to account for this, especially if it is remembered that no long time ago the products of Norwegian farming were almost entirely consumed on the farm or sold on the local and district markets. Accordingly the necessity for setting up organisations for selling these products on distant markets, which has acted as one of the main encouragements for the movement of agricultural co-operation in other countries, was not felt in Norway.

In the present century, on the other hand, agricultural co-operation has made very rapid progress and at the present time, as shown in the table below, out of the 125,000 persons engaged in agriculture as a primary occupation, about 62,000 belong to central co-operative associations for purchase of farming requisites, while 44,000 are members of the co-operative dairies, about 30,000 of the co-operative slaughterhouses, and about 13,000 are members of the central egg-circles. The agricultural population is also strongly represented in the movement for consumers' co-operative societies which include in their membership about 50,000 of the farming population.

*Position at the end of 1930 of the more important Agricultural Co-operative Organisations and of Consumers' Co-operation*

	Membership	Turnover million crowns	Net profit crowns	Funds million crowns
Central Purchasing Associations	62,300	35.0	1,005,900	5.4
Central Association of Consumers' Co-operative Societies in Norway (N. K. L.) . . . . .		30.6	1,200,000	6.7
Consumers' societies affiliated to N. K. L. . . . .	110,076	110.2	5,600,000	34.0
Consumers' societies independent of N. K. L. . . . .	50,000	40.0	2,000,000	8.0
Dairies . . . . .	44,000	80.0	2,000,000	15.0
Slaughterhouses . . . . .	29,865	20.5	233,600	2.5
Central egg-circles . . . . .	13,000	4.5	89,000	0.2



It should in addition be noted that during the last two or three years a very vigorous activity has been displayed in connection with agricultural co-operation resulting in the formation of several large new central organisations. Of these the Milk Centrals and the "Fleskecentralen", the general organisation of the bacon pig producers and of the co-operative slaughterhouses, include in their membership the great majority of the farmers of Norway.

## I. — THE LEGAL SYSTEM OF THE NORWEGIAN CO-OPERATIVE ORGANISATIONS.

No special law on co-operative societies exists in Norway, but several other laws contain clauses relating to the legal constitution of co-operative enterprises. Among these are : the law of 17 March 1890 relating to trade registers and to power of attorney, the commercial law of 16 July 1907, the law of 25 July 1913 on crafts, the law of 4 April 1924 on banks, etc.

As regards registration, the co-operative societies must be registered in the Trade Register as are all other commercial enterprises. The co-operative society is registered as without liability and with a variable membership and capital. Each society is obliged to present to the Register a list of names of the members of its council of management and a copy of its rules, and to state the nature of its undertaking. All modifications of rules must also be communicated to the Trade Register. Exemption from this obligation of registration is granted only to co-operative societies which have no warehouses and distribute only goods ordered in advance by members (purchasing societies).

With the exception of the purchasing societies, every co-operative society is obliged before beginning business to take out letters of commerce, certain conditions being required for the obtaining of this. If a society desires to open more than one branch, it is obliged to take out letters of commerce and to pay an annual charge for each branch. In this case also sales can only be made to members.

A co-operative society may undertake any kind of production. If however it is desired to undertake a form of production which comes under the law on occupations or crafts — such as baking, etc., — the head of this section of its activity must possess an artisan's licence and must act on the management council of the society.

Co-operative societies are not permitted to undertake banking operations, but they have the right to accept members' deposits, to pay interest on these and to utilise them for their own business.

The societies are also debarred from undertaking insurance business, which may only be undertaken either by share companies or by mutual insurance societies. There is however nothing to prevent a co-operative society from being a shareholder in an insurance company as in any other share company.

Co-operative societies, like private traders, are not subjected to the obligation of publishing accounts or official audit.

As regards charges, co-operative societies are obliged to pay the land tax, the tax on the income yielded by property as well as the tax on the surplus coming from sales to customers who are not members. On the other hand profits on sales to members are not subjected to any tax.

## II. — CO-OPERATIVE SUPPLY ORGANISATIONS

### A. *Purchasing Organisations.*

The first local organisations for joint purchase of farm requisites in Norway were certain rural economy societies (*Landbruksselskaper*) which in the eighties included this activity on their programmes. A more extended purchasing organ-

isation was however not formed till 1896 when the rural economy societies of four provinces established the Central Co-operative Purchasing Association in the capital Oslo (*Faelleskjøpet i Oslo*) which grouped the local purchasing societies of the surrounding country. Some years later, towards 1900, three other similar centres were formed in other regions of Norway, and at the present time (towards the end of 1930) there are seven such centres linking 2200 local societies with about 62,000 individual members.

The societies affiliated to the Central Associations are either true purchasing societies (*innkjøpslag*) specially formed for the purpose, or agricultural societies (*landbrukslag*), small cultivators' societies (*smaabrukslag*), dairies, cheese making societies, consumers' co-operative societies, and other similar organisations.

Members of local purchasing societies are not expected to make any contribution, and as a rule they do not pay any entrance fee. The societies therefore carry on business without members' capital, but members are jointly and severally liable for payment of all goods delivered to their society by the Central Association. Any loss is distributed among the members on a pro-rata basis of the goods received during the last financial year.

All the members of a local purchasing society are obliged to purchase from the society fertilisers and concentrated stock feeds; as regards other commodities however no obligation of the kind exists.

Goods are distributed at current prices by the purchasing societies and must be paid at latest thirty days after delivery. In the case of non-payment within this period, some societies have established the rule of making no further delivery of goods before discharge of the payment due. With a view to a more regular observance of this term of 30 days, several societies have arranged for a bank loan from the district savings bank, the members being jointly and severally liable for such loan. On receipt of the invoice for the goods, the manager of the society sends it to the bank together with a list showing the apportionment among the members. The bank then debits to the current account of each member the sum due from him, and forwards the payment to the Central Association concerned.

Purchasing societies are managed by a council of three or five members, one of whom acts as chairman. Either the chairman, or the manager engaged for the purpose and in receipt of a small salary or of a fee fixed according to the quantity of goods handled, takes the members' orders, forwards them to the Central Union, distributes the goods, receives the money and makes the payment to the Central organisation, unless the banking system described above has been adopted.

The original constitution of the central organisations of the local purchasing societies was not entirely based on co-operative principles, since as already stated these organisations were set up by the rural economy societies of the provinces, and during the early years were administered with the help of loans guaranteed by the provinces. At the present time, however, their organisation is entirely co-operative, and the reserves which they have succeeded in building up enable them to dispense with the loans guaranteed by the provinces.

Except as regards election and composition of the committee of representation and of the management council, the majority of the Central organisations are for the most part based on the same principles. An idea of their organisation and commercial methods may be gained from an account of the constitution and rules of the Central Purchasing Association at Oslo, which is the most important of these organisations.

Admission to the Central organisation is not for the local societies conditional on payment of subscriptions, but it is essential that members should be jointly and

severally liable to the Central body for all the obligations of the society, that the societies should guarantee that their membership is not below ten, and that the society and its members undertake to make all purchases of fertilisers and concentrated stock feeds from the central organisation.

Goods received must be paid for at latest 30 days after delivery, unless some other stipulation has been made. If payment is not made at the due date, no further deliveries are made to the society till the accounts are discharged. If three months after due date payment for goods has still not been made, the sum is legally recoverable. On any overdue liability, the defaulting society is obliged to pay an interest of 2 per cent. higher than the discount rate of the Bank of Norway.

If a local society desires to withdraw from the Central organisation, three months notice should be given before the expiry of the financial year.

The highest authorities of the Central Association are the Committee of representatives and the management council. The Committee of representatives consist of 45 members, 38 appointed by the affiliated purchasing societies and 7 by the seven rural economy societies in the provinces which have been absorbed by the Central organisation. One of the main functions of the Committee of representatives is to elect the management council, which consists of seven members, one for each province. The council appoints the commercial managers and the rest of the staff.

Two per cent. of the annual profit is distributed to the affiliated societies which during the past year have made their payments within the time allowed, while the remainder of the profits is employed for the constitution of a reserve fund. When the reserve fund has reached one-tenth of the average turnover of the three preceding years, a bonus may be paid to the affiliated societies.

Goods the distribution of which to the local societies is ensured by the Central Purchasing Associations include artificial fertilisers, concentrated stock feeds, seeds, flour and meal for domestic consumption, implements and machines for farm use, cement, electric equipment, fuel oil, etc. The Central Associations undertake production only to a very limited extent. Thus the Oslo Association has a mill and also a field for growing of selected cereals, the Stavanger Union has two oat grinding mills, and that of Trondhjem has a lime stone mill, and following the example of the Oslo Central Association has also a farm for the production of selected cereals.

In 1918, the Central Purchasing Unions with the assistance of the Peasant Farmers' Bank, established the Union of Central Co-operative Purchasing Association (*Samvirkecentralen*), the object being to act as intermediary in importation. This however was subsequently dissolved.

In 1930 the Central Purchasing Associations showed an aggregate turnover of 34.9 million crowns with a net profit of about one million crowns. In comparison with 1929 the turnover has decreased by 8.6 per cent., but as in the same time the drop in prices of commodities was even more, there was an increase in the quantity of commodities sold. At the present time nearly three fourths of the artificial fertilisers and the concentrated stock feeds used in Norway are supplied by the Central Purchasing Associations.

### B. Consumers' Co-operative Societies.

The movement for consumers' co-operative societies has undoubtedly not the same importance for the rural population in Norway as it has for that of the two neighbouring countries of Denmark and Finland. As however an important part of the activity of these societies takes the form of purchase of the products of rural members and sale to town members for their consumption, and as the farmers are

largely represented in the movement, it should be duly accorded its place in this account of Norwegian co-operation.

The first consumers' co-operative societies in Norway were founded during the sixties but, mainly on account of the want of competence among the founders and, the unduly large credit given to the members, the movement was not long-lived and towards 1880 the greater part of these societies disappeared. The movement was not resumed till 1895, when the Christiania Co-operative Society was organised, in full accordance with the Rochdale principles. The foundation of this society gave a new impetus to the movement, several societies were established on the same model and in 1906 a central organisation was formed, the Norwegian Co-operative Union (*Norges Kooperative Landsforening*, or simply *N. K. L.*).

At the present time there are in existence in Norway about 800 consumers' societies with a total membership of 160,000 persons, representing with the members of their families, from one-third to one-fourth of the total population of the country. At the end of the year 1930 there were affiliated to the Norwegian Co-operative Union 455 local societies with 110,000 members in all. Outside the Union about 400 local societies were also in existence with a total number of 50,000 members. Complete particulars are not available as to the activity of these non affiliated societies. Of the members of the societies affiliated, 99.2 per cent. were workers in industries including the fishing industry, seamen, transport workers or commercial employees, 26.3 per cent. were farmers, 6.2 per cent. were farm labourers, while the remainder were distributed among other callings.

All the local societies affiliated to the N. K. L. are based on the Rochdale principles. The working capital is ensured by the contributions of the members. These contributions are of two kinds—the liability contribution, or the amount which renders members jointly and severally liable for the financial obligations of the society, and the loan contribution. The amount of the liability contribution is usually from 60 to 100 crowns; the loan contribution is at least 100 crowns. In addition to the last named sum a member may however make a voluntary contribution of any sum he pleases. Contributions bear an interest of five per cent. The management council consists of from five to nine members and is elected by the general meeting of members, which meets twice in the year. Some large societies have in addition committees of representatives. No member can withdraw from the society unless his contributions are paid, and three months notice of resignation must be given in writing. The accounts are audited by auditors appointed by the general meeting. Apart from this local control, more than half the societies affiliated to the N. K. L. are at the same time members of the audit department of that Association, the accountancy experts of which check the audits and the stocks held by the societies.

The turnover of the local societies affiliated to the N. K. L. amounted in 1930 to 110 million crowns, or, on an average, 1000 crowns per member. The gross profit amounted to 16.2 million crowns and expenditure to 10.6 million, respectively 14.2 and 9.6 per cent. of the turnover. The net profit amounted to 5.6 millions, including 3.1 millions paid to the members as bonus.

The economic position of the societies affiliated to the N. K. L. may be described as very good. Their total assets amounted in 1930 to about 42 million crowns, of which 17  $\frac{1}{4}$  million represented the estimated value of the real and other property, while their capital and funds amounted to nearly 24 million crowns and the remaining liabilities to 17.4 million.

There were 121 establishments for production attached to the local societies affiliated to the N. K. L. in 1930, of which 90 were bakeries.

The object of the N.K. L., which was, as already stated, founded in 1906, is to act as a regulating influence on prices of commodities, to accumulate in its savings department consumers' money for their own advantage, to establish local societies, to diffuse a knowledge of the social and economic importance of co-operation and to safeguard the interests of consumers in regard to legal matters.

Any co-operative society which is organised in accordance with the principles of the model rules of the N. K. L., and undertakes to observe the rules of the Association, may be affiliated on payment of a sum of 10 crowns per member. Affiliated societies are liable in respect of the financial obligations of the societies only to the extent of the shares thus paid.

All sales take place at wholesale prices, and payment must be made within the 30 days following the delivery of the goods. If payment is made before the expiry of the period, advance interest is credited to the society, if on the other hand the period has expired, the society is obliged to pay interest for default. Affiliated societies are not under any obligation to make their purchases from the Association.

The general meeting of the members which takes place every three years is the supreme organ of the Association. All local societies have the right to send to this body one representative plus a certain number of additional representatives in proportion to their purchases from the N. K. L.. The congress elects the management council consisting of five members with the addition of the managing director and a member elected by the staff of the N. K. L. In the intervals between the general meetings, the highest authority of the N. K. L. is the committee of representatives, consisting of 24 members, 22 elected by the 16 District Unions of the local societies and two by the employees and officials of the Association. The committee of representatives regulates the more important questions, purchase and sale of real property, establishment of factories, etc. The committee also appoints the manager who is responsible for the commercial activity of the Association.

The advisory and propaganda activities of the N. K. L. are undertaken by the Department of organisation, and the funds required are ensured by the annual contribution of 60 öre per member, which every society is obliged to pay to the department in question. The propaganda and educational activity is carried on by the review "Kooperatoren" of which 100,000 copies are printed monthly, and by lectures or vocational courses. The work of organisation is done in collaboration with the District Unions of the societies.

The N. K. L. does business in every kind of merchandise, distributing from its depots in the different towns. Agricultural products supplied by the local societies in the rural districts to the depots for forwarding to the local societies in the towns form an important proportion of these sales. The total turnover has since the foundation of the Association increased with almost no interruption and in 1930 amounted to 30.6 million crowns, a sum which in spite of the fall in the wholesale price index is nearly one and a half million crowns larger than in 1929. The net profit was 518,000 crowns.

In addition to its wholesale trading activity, the N. K. L. works two margarine factories, one tobacco factory, one soap factory, a mill, a shoe factory, three establishments for coffee-roasting. It also owns two insurance companies, one for general insurance against losses, and one for life insurance. Among the manufacturing establishments the margarine factory had in 1930 an output of 3,263 m. tons of the value of 3.7 million crowns, the turnover of the soap factory was one million crowns, that of the Stavanger mill, the capacity of which at the present time is 1500 hl. per day, amounted to 5.1 millions, and the shoe factory had an output of more than 100,000 pairs of shoes per annum, with a total gross value of 1.3 million crowns.

The activity of the savings departments which date from 1911 is carried on by the Deposits Section of the N. K. L. which at the present time has 80 branches with 18,000 depositors and deposits amounting to from 6 to 7 million crowns.

It may finally be noted that the N. K. L. is a member of the Scandinavian Co-operative Association of Wholesale Trade (*Nordisk Andelsforbund*), a purchasing organisation based on co-operative principles and grouping together the Wholesale Trade Co-operative Associations of Denmark, Norway, Sweden, and since 1928, Finland.

(to be continued).

H. LINDSTEDT.

### Regulation of Co-operation as an Economic and Social Institution in Spain.

Before 1929 no legislative measures properly so called were in existence in Spain regulating the working of the co-operative societies, and these societies were regarded as of a similar nature as the simple groupings constituted for every kind of purpose regulated by the Law of Associations of 1887 in an indefinite and general manner. On 28 January 1906 a law on agricultural syndicates was passed, the object of which was to support and encourage co-operative tendencies. It included special provisions granting facilities for the formation of and exempting from taxation co-operative societies formed under the aegis of this law on syndicates. In view of the absence of legal provision on the subject of co-operation, the Government in 1929 gave full consideration to the situation and a Royal Decree was enacted on 26 July. In virtue of the provisions of this decree, the organisation of agriculture and stock-breeding was decentralised and placed instead under the Provincial Assemblies (*Diputaciones provinciales*) to which was attached in each case a special body of an advisory and executive character for the benefit of farmers and stockbreeders organised in co-operative societies. By a later decree of 21 November of the same year 1929, regulations were enacted to which the agricultural associations and syndicates now have to conform. These included rules for the ordering, classification and supervision of co-operation in its separate activities with a view to ensuring the interests of the members and to the reinforcement and improvement of all existing co-operative effort while assisting its expansion in all possible ways.

Such were the measures relating to co-operation to be found in Spanish legislation up to the beginning of the new regime.

In view of the defective character of the legislation prior to the year 1929 and seeing that the legislation of that year did not correspond to the democratic tendencies which inspired the new situation, the Government of the Republic passed on 4 July 1931 a Decree, which was declared law on 9 September. This law was designed to meet the requirement so strongly felt in Spain for a legislation which would define and regulate co-operation as an institution of true economic and social character within the legal forms according fully with co-operative needs, so that co-operative development might proceed smoothly and without disaster.

As it rests with other publications of this Institute, and in particular with the *Annuaire International de Législation agricole*, to supply the text of laws, no details of this Law will be given here, and this account will be confined to some notes on its more striking and novel features.

New legal measures were necessary; they were demanded primarily by the backward state of the co-operative movement, and also by the vague character of the former measures which rendered nugatory all efforts for the encouragement of co-operation; and finally because under the new regime it was impossible to

retain the phrasing of certain provisions of the laws of 1929 which had been passed in a political situation characterised by tendencies completely distinct from those of the present situation.

On the other hand, on the eve of the reform which is to effect a radical transformation in Spanish land tenure, co-operation, which will have to fill an important place in the successful carrying through of the reform, must perforce be planned along the same progressive lines as the reform itself, and must in the aims it adopts correspond as a whole to the requirements which will be created by the agrarian reform in Spain.

It may first be stated what is meant by a co-operative society under this law.

The following is the definition : "... the association of natural or legal persons who, placing themselves in their organisation and working under the prescriptions of the present law, keep before them as object *not that of money-making* but the satisfaction of some *common need* and the ensuring of the *social and economic welfare* of the members by means of the joint action of the members in some collective operation". In other words, there is here outlined the form of a co-operative society of an economic and social character, the essence of which is the satisfaction of joint requirements but without any money-making object. This does not exclude honestly earned profits but does exclude the excessive gains which should not be associated with the true co-operative system.

The legal conditions essential to all co-operative societies are as follows :

(a) complete powers of self-government, by their own statutes and the agreed decisions of the general meeting.

(b) equality of voting rights for all members. None the less certain exceptions may be established, when the rules of the society expressly admit them, as in the case of the co-operative vocational workers' societies in which some members may hold up to three votes, in accordance with the extent of their participation in the affairs of the society ; it is however understood that the capital brought in remains independent, and that the plurality of votes is not applicable to affairs of a personal character.

(c) there is no obligation in respect to the function of any particular person or body.

(d) participation in share capital is not transferable except as between members, under conditions to be fixed, and that in the event of assigning any interest to those shares in the capital it is fixed in advance at an amount which must never exceed the legal interest.

(e) that in the event of distribution of surplus the division will take place proportionately to the participation of each member in the operations of the society.

The minimum number of members is 20, except in the cases in which a different minimum is established either by law or by regulation for societies of some defined type. The maximum membership cannot be limited either by statute or *de facto*, except where there is special justification and with the previous authorisation of the Ministry of Labour.

The elimination of all idea of gain, referred to previously, is established by the law in the following terms : " No one may belong to a co-operative society in the capacity of a society promoter, a contractor, a capitalist member or anything of the sort. There can be no preference shares, founders' shares, nor any combination that tends to ensure privileges or special advantages to certain persons, unless there is an act or agreement to the contrary".

The full juridical personality which is granted to co-operative societies confers upon them the right to acquire, to own, and to alienate goods and rights, to con-

tract obligations, to bring civil and criminal suits and to perform all actions calculated to fulfil their purposes or to be in defence of their interests, always in conformity with the laws and rules of their constitution.

As regards liability of members, the co-operative societies may be of three classes ; societies with limited liability, the commitments and obligations of which are limited to the assets of the society ; co-operative societies with supplementary liability, in which the members may constitute a supplementary guarantee, with a maximum fixed in advance ; and societies with unlimited liability in which the members are liable to the extent of the whole of their property. Consumers' co-operative societies may not be constituted on a basis of unlimited liability, and there is a similar prohibition as regards corporate bodies forming part of a society with unlimited liability.

In order to distinguish true co-operation from any form of association partially resembling it the law says that "... only the societies classified as such by the regulation of the present decree may employ the designation ' co-operative '. No other association, society, company or establishment may use in its designation, sub-title, advertisement, label or announcement, nor any document the word ' co-operative ', nor any other of similar meaning or one likely to lead to confusion ". The object of this regulation has been indicated, which is to prevent other institutions of non co-operative character obtaining the special treatment which is accorded to the true co-operative societies, or benefiting in any way by the advantages which are conceded by the law to co-operation.

A special Register is formed in which co-operative societies must be registered. No fee is required but no society may begin activities until it has been registered.

In accordance with the modern views as to the equality of the sexes before the law, it is provided that membership of a co-operative society is open, without the necessity of the consent of the husband, to any married woman who desires to belong to a co-operative society, and without delay if the society is one with limited liability ; and to any woman without the necessity for paternal consent if she has completed the age of 16 years.

Any member may resign from the co-operative society to which he belongs on giving the notice in writing which is required by the rules, provided that the extent of the notice does not exceed one month in the consumers' co-operative societies and that on withdrawal a member remains liable for discharge of his commitments and liabilities contracted at the time of his withdrawal. After the expiration of two years from the resignation no kind of liability can be required of the member who has withdrawn. When the resignation of a member is accepted his share in the society's assets is liquidated on guaranteeing the sum that corresponds to it if such share was not made subject to liquidation of non-discharged liabilities.

The law lays down that in the case in which the participation of the members in the society's capital is represented by shares, these shall be registered shares of a value not higher than one hundred pesetas each. For the formation of the fund of reserve it is enacted that 10 per cent. at least of the profits of each season shall go to constitute a reserve fund until it reaches a sum equal to the amount of the individual capital brought in on a compulsory basis by the members.

The administration of the co-operative societies is in the hands of a council consisting of five individuals as a minimum, and in the societies of more than one hundred members there will be set up, in addition to the council, a committee for the passing of accounts formed by three individuals chosen by the general meet-



ing. The above is a statement of the purport of the principal provisions of the law in respect of the working of the co-operative associations, and the classes of these societies as established by the law may now be enumerated.

Under the designation of *Consumers' Co-operative Societies* there fall in one group five different classes, viz.:

Consumers' co-operative societies	}	distributive
		special supply
		health and sanitary
		miscellaneous services
		dwelling house provision

Forming independent groups there are:

Co-operative study societies (*Cooperativas escolares*).

Workers' co-operative societies (*Cooperativas de trabajadores*).

Vocational workers' co-operative societies (*Cooperativas profesionales*).

Co-operative credit societies (*Cooperativas de crédito*) and Co-operative insurance societies (*Cooperativas de seguros*).

The characteristics of each of these groups may be briefly summarised.

In the societies included in the group of consumers' co-operative societies, the condition necessary for those of the first category, the distributive societies, is that the excess returns, after the requirements of the reserve fund and of the operations of the society have been met, are distributed proportionally to the amount paid in full by the members in payment for goods or services rendered to them severally by the society. The societies for distribution and sale may render services to the members of another similar society on a reciprocal basis, and to corporations and also to the general public, for reasons of public utility or when the competent authority so directs.

The same rules obtain for the co-operative societies of the second class of this group, those of special supply, or the societies engaging in the supply of water, gas, electricity, machinery, fertilisers, etc.

As a feature of the co-operative sanitary societies proving their non-individualistic character and their practical aim, the provisions of the law may be quoted prescribing that no interest is payable on the share capital and that all gains, after due regard to the reserve fund has been had, are devoted to improvement of the services and the operations of the society. This class of co-operative society may receive aid or subsidy from co-operative societies of other kinds when required by the objects of its activity, and there is no obligation as to reciprocity of services.

Co-operative study societies (*cooperativas escolares*) are societies formed among the students of centres of instruction for the purpose of inculcating the idea of co-operation. They are of a strictly popular character, their object being the wider diffusion of co-operation and its practice.

By workers' co-operative societies (*cooperativas de trabajadores*) are understood by the law those the main object of which is the improvement of the return from and the conditions of the personal labour of their members by the following means: contracting for the joint labour of all members or groups of members, joint execution of work, joint purchase and distribution to members of the materials and implements of their labour, co-operative management of land and of production centres. The necessary condition of the workers' co-operative societies is that, in the event of distribution of the surplus returns, after due regard has been had to the reserve fund and the operations of the society, the division should be made in

proportion to the value assigned to the personal labour contributed by each member to the common work. No person other than a member may be permanently employed by these societies ; at the busy times, however, such as seed time and harvest in farm work, or when manipulation of a product has to be accomplished within a definite time, non-member workers may be taken on. When these societies reach the point of having liquid social assets in excess of ten thousand pesetas per member they will lose their character of workers' co-operative societies, and will pass, for all legal purposes, to the group of vocational workers' co-operative societies (*cooperativas de profesionales*).

The law regards as vocational workers' co-operative societies (*cooperativas de profesionales*) those formed by farmers, stockbreeders, manufacturers, etc., with the object of carrying out jointly and on co-operative bases certain operations designed for the improvement of the enterprise from the economic standpoint, for example : purchase or production or distribution among the members of requisites, raw materials and implements, and of all the means of production, such as machines, fertilisers, seeds, etc. ; joint performance of the preliminary operations of production, or inversely joint execution of the final transformation processes of the products of members up to the point of final preparation for the market ; joint practice of some industry, more particularly the industries complementary or subsidiary to those practised by members ; joint farming of lands or management of industries of members, thus forming an enterprise of higher order by the co-operative union of different particular enterprises, sale of the products of the society and of the members ; facilitating the obtaining of the credit required for the operations of the society by means of pledge or mutual security ; and finally carrying out every kind of operation directed towards the greater economic welfare of the society. The profits shown by the annual statements of these co-operative societies of vocational workers are distributed among the members according to the total amount representing the operations performed by each member with the society.

The regulations for the working of the co-operative credit societies authorise impositions, advances, loans and discounts, recoveries of payments and payments on account for the members, performance of necessary banking services and of every other operation complementary to those mentioned. These co-operative societies may grant credits only to individuals or bodies holding the status of members. The interest of all operations is fixed at the most strictly economic limit, in no case exceeding the legal limit. Within these regulations the co-operative credit societies will endeavour to give their activities an eminently popular character with the object of diffusing credit facilities as widely as possible and bringing the benefits within the reach of the poorest worker.

The constitution of co-operative insurance societies (*cooperativas de seguros*) is authorised by the law. An initial guarantee fund is to be formed, with contributions apart from the subscriptions and premiums, and with the support also of persons and bodies not insured. External contributions will not however confer any right to exert influence on the development of the society, but are merely a method of guaranteeing the working of the society at the first stage. The law provides that subsequently these external contributions to the society shall be replaced, within a suitable period, by the funds of the societies themselves. The activity covers all forms of insurance, mainly those most necessary to the working classes, such as accident, maternity, unemployment insurances.

After providing for ranging in the groups indicated all forms of co-operative activity, the law proceeds to regulate the dissolution and liquidation of associations, and with due regard to the democratic principles and to the principles of social

equality which throughout inspire the law, it is provided that in no case would there be appropriated to any member, in the event of the dissolution of the society reimbursing him, a higher value than that which would be paid to him if he had left the society at any time of his own accord ; also that the amounts derived from the obligatory reserve funds cannot be distributed, in any case, between the members, and that these sums as well as those which represent the excess of the value corresponding to the payments to the members, already mentioned will be devoted to the co-operative work of instruction or of benevolence as the general meeting of the society in liquidation may decide. All amounts which for any reason are at the disposal of the co-operative society at the time of its dissolution will be devoted to similar purposes.

It is open to co-operative societies to forms Unions and Federations, and to make agreements for the accomplishment of operations of common interest.

A Centre is established under the Ministry of Labour, the function of which is the study, proposal, execution and diffusion of legal measures relating to co-operation, investigation of the co-operative movement, encouragement of its development in Spain, inspection of the societies and such supervision as is necessary. This Centre will be an informatory organisation to the Government as regards the co-operative societies and will act as intermediary.

With respect to the advantages and facilities conceded to the co-operative societies, representation is secured to the consumers' societies in the official organisations for provisioning and they are authorised to supply their members directly with articles of prime necessity, independently of any provisioning agreement which the authorities may have with other suppliers. The different groups enjoy exemption from a number of taxes. Workers' co-operative societies may tender for public works, and will have preferential treatment as compared with other competitors. The guarantees they have to give as security on their farming and other enterprises are reduced to the fourth part of that which is required of other undertakings which are not co-operative in character.

In conclusion, with a view to preventing other societies of miscellaneous type from sheltering under the protection accorded by this law to co-operative societies, and securing the advantages without fulfilling the eminently democratic purpose which runs all through the new legislation on co-operation, any attempt of this kind will be punished by the infliction of a fine of 1000 pesetas on co-operative societies which infringe the provisions of this law, and of one of fifty pesetas on the members of the administration. In the case of repetition of the offence the sum will be doubled.

All the already existing societies, in order to function as such, will be expected to accept the provisions of the law and to introduce into their rules the modifications that will be necessary for the fulfilment of the mandate.

E. M. B.

## INSURANCE

### Hail and Livestock Insurance in Switzerland (1).

Hail insurance is of relatively old standing in Switzerland : its first appearance dates from more than a century ago. Although preceded by some quite temporary and limited experiments the formation of the Mutual Insurance Society founded at

(1) The following note is chiefly based on the data and material communicated by the Division of Agriculture of the Federal Department of Public Economy in reply to the questionnaires addressed to it by the Bureau of Economic and Social Studies of this Institute.

Berne in 1825 may be considered as the first attempt to organise effort to meet the disastrous losses caused by hail. The activity of this society was soon extended to several cantons, but in consequence of certain occurrences the detail of which is only imperfectly known (including secession on the part of the farmers of the Cantons of Vaud, Fribourg and Lucerne), this society disappeared in 1860.

In the cantons of Fribourg and Lucerne, two societies were in 1831 and 1836 formed the first of which survived about 50 years and the other rather more than 20 years; there is no information available on the activity of the society established in the Canton of Vaud. For many years hail insurance was largely operated by foreign enterprises.

In 1875 the "Paragrêle" was founded at Neuchâtel, a mutual hail insurance association the action of which has always been confined to the vineyards situated in the territory of the Canton of Neuchâtel. In 1880 the *Société Suisse d'assurance contre la grêle* was founded at Zurich, and is the only large society in Switzerland for this branch of insurance. With the entrance of the farmers of the Canton of Ticino in 1920 into this Society, its field of activity became extended to the territory of the whole Confederation. The two societies are without share capital but have a reserve fund which is increased by the addition of the yearly balances. These reserves amounted in 1929 to 319,500 and in 1930 to 336,000 Swiss francs for the former society, the "Paragrêle"; and to 6,597,849 Swiss francs in 1929 and to 5,906,012.14 in 1930 for the *Société Suisse*.

The Canton of Vaud on the other hand with the object of widening the field for hail insurance established under a law of 25 October 1928 cantonal insurance against damage from hail, under the name of *Assurance grêle cantonale*. The financial organisation of this institution is intended to ensure as far as possible the payment of compensation to the policy holders out of its own resources. It has a reserve fund and a scheme under which rebates are given.

Hail insurance in the Canton of Vaud is partially compulsory. Actually among the five types of premium that may be taken out under the cantonal hail insurance scheme only two are obligatory: the fixed or basic premium on vine growing (grapes and young plantations of not more than three years) and the basic premium on cereals; while the additional premium on vine growing (grapes, nurseries of rooted plants, grafted stocks and stocks) as well as the additional premium on cereals and the insurance on other crops are all optional.

Hail insurance as well as other branches of insurance in Switzerland is subject to the provisions of the federal law on the insurance contract of 2 April 1908. This law is not applicable to reinsurance contracts, nor to contracts made by associations the sphere of activity of which is locally restricted.

The working of private insurance enterprises is subject to the Federal supervision assigned to the Confederation by art. 34, paragraph 2 of the Federal Constitution and exercised by the Federal Council in virtue of and in accordance with the provisions of the law of 25 June 1885. This law is not applicable to the local associations indicated above.

The private undertakings subjected in the law relating to supervision are expected, *inter alia*, according to the Federal law of 4 February 1919, to place a guarantee with the Federal Council.

Encouragement to hail insurance in Switzerland takes the form of both cantonal and federal subsidies. The great devastation wrought by hail in Switzerland has made it necessary for the public authorities to give financial assistance; otherwise the societies would have been under the disadvantage of being compelled to maintain the premiums at a high level with the result that farmers would remain

aloof. The *Société Suisse* of Zurich, in view of its character as a public utility institution, received a federal subvention of 500 francs for foundation expenses. This society opened under great difficulties in years when losses were very severe and as early as 1882 the directors addressed a request to the Government with a view to obtaining a federal subsidy towards the formation of a reserve fund. This request and others that followed were refused. Finally by Message of 23 November 1888, the Federal Council proposed to the Chambers to enter on the annual budget an item for "financial assistance to hail insurance". This proposal was adopted and in the course of the discussion on the budget of 1890, a credit of 50,000 francs was for the first time granted in favour of hail insurance. This credit was continued during the years 1890 till 1893.

The Federal Law of 22 December 1893 relating to the encouragement of agriculture by the Government, a law which is still in force with certain amendments which are not of relevance here, contains an article 13 in virtue of which "the Confederation is expected to support by means of subsidies the efforts of the Cantons in regard to livestock and hail insurance". The sums assigned each year by the Federal Government on behalf of hail insurance are given to the societies in the form of subsidies facilitating such insurance :

- (a) by paying the cost of the insurance policy ;
- (b) by making a contribution to the payment of premiums ,
- (c) by constituting a reserve fund.

In accordance with the law quoted, the Government subsidy in favour of these two types of insurance must never exceed the sum set aside for the same purpose by the canton.

These subsidies were paid in full up to 1914. After and including 1915, owing to financial difficulties, the Federal Council decided that the subsidy could no longer exceed :

- (a) for insurance policies : 50 per cent. of the expenditure,
- (b) for the premiums 20 per cent. of the expenses in the case of insurance of vineyards and 12.5 per cent. if the insurance applied to other farm crops, cereals vegetables, fruits, etc.

The total amount of the cantonal subsidies is fixed by the respective legislations of the cantons. Inhabitants of the two cantons of Glarus and Grisons receive no subsidies in aid of hail insurance. The Canton of Ticino, where the *Société Suisse* refused up to 1920 to arrange policies on account of the high risks and of the absence of adequate statistical data on the frequency of hail storms, enjoys higher Federal subventions in certain classes of risks, under the condition that a subsidy at least as high is given by the canton. As regards the canton of Vaud, the State is under an engagement, for the years in which the total of the premiums and the funds available from the reserves of the *Assurance grêle cantonale* are not sufficient to meet the full payment of the compensation assigned to members, to advance to the bank of the institution in question the sums required to make up the difference. These advances must be repaid to the Bank of the State at the earliest possible date with a normal interest. The total of unrepaid advances must not exceed 5,000,000 francs. The State liability for the engagements which may accrue to it in this connection is thus expressly limited, apart from the contributions from the policy-holders, to the sum above indicated, in accordance with the provisions of art. 22 of the same law. In the event of the surplus reserve funds, sums accruing from any reinsurance that may have been effected, and the State guarantee of 5,000,000 fr. being all exhausted, the Council of State may decide on reductions in compensation.

On 16 March 1928 a recommendation was laid before the Federal Chambers which a few months ago had still not been discussed. It runs as follows: "the Federal Council is invited to present a report as regards the desirability or otherwise of encouraging the introduction of compulsory insurance against hail for certain crops by means of the modification of the conditions to which the Federal subvention intended for this form of insurance is subjected".

Switzerland possesses a regular service for the ascertainment and reporting of the occurrence of hailstorms: this service is provided through the Swiss Central Meteorological Station at Zurich which is an official institution. Reports are received from high altitude stations and also from correspondents who give their voluntary services in many districts. Information on the date, place and severity of hailstorms supplied to the central station enable it to publish each year a complete survey of the subject.

The purely scientific side of the work lies with the Central Station: the direct practical ascertainment of facts (kind of crops damaged by hail, identification of the areas under each of these crops, and estimation of the losses in each case) is undertaken by the hail insurance organisations, as it is clearly in their interest to obtain exact information on these points.

The development of hail insurance in Switzerland has been almost continuous.

Years	Number of policies	Assured capital
1890-95 (yearly average) . . . . .	23,349	21,876,606.59
1906-10 " " . . . . .	58,041	61,058,549.60
1914 . . . . .	66,661	81,356,404 —
1918 . . . . .	88,739	206,476,184 —
1924 . . . . .	84,302	170,489,460 —
1929 . . . . .	100,941	181,650,105 —
1930 . . . . .	115,120	186,842,015 —

In spite of the diminution in the value of the currency, the figures just given prove that the idea of hail insurance has made great progress in Switzerland and that the insured capital is greatly in excess, from the absolute point of view, of the pre-war amount.

On the other hand the course of business was not very successful; during the years 1924 to 1929 premiums were far from sufficient to meet the indemnity payments. The unappropriated reserves were placed under heavy contribution to make it possible to compensate the losses.

The business done in hail insurance in Switzerland during the years 1924 to 1929 may be shown in the of form percentages of the sums assured, taken from the Report of the Federal Bureau of Insurances published in 1931 and relating to the financial year 1929:—

Years	Gross premiums	Gross compensation payments	
	in percentages of the sums assured	in percentages of the sums assured	in % of the premiums paid
1925 . . . . .	2.01	1.82	91.0
1926 . . . . .	2.13	1.19	56.0
1927 . . . . .	2.06	4.27	207.0
1928 . . . . .	2.34	2.94	127.0
1929 . . . . .	2.41	2.61	108.0

As regards the encouragement given by the public authorities to hail insurance, the following are the figures published by the Federal Council in its report on the activities of 1930 and relating to 1929 and 1930 :

	Policies	Assured capital	Premiums	Expenditure of the Canton			Federal subsidies
				Cost of policies	Premiums	Total	
1930 . . .	115,126	186,842,015.—	4,771,909.30	70,378.15	703,287.08	773,665.23	765,780.60
1929 . . .	110,941	181,650,105.45	4,737,699.45	66,646.51	688,980.75	754,727.26	748,207.40

The aggregate total of the premiums received according to the reports of the institutions for 1930 (including the cantonal and federal subsidies) amounted to .

For the <i>Paragrêle</i> . . . . .	francs	80,700.50
For the <i>Société Suisse</i> . . . . .	»	3,448,452.40
For the Canton of Vaud . . . . .	»	1,250,955.90
Total francs . . . . .		4,780,108.80

The total amount representing compensation payments made was in 1930 :

For the <i>Paragrêle</i> . . . . .	francs	89,748.10
For the <i>Société Suisse</i> . . . . .	»	3,752,851.90
For the Canton of Vaud . . . . .	»	702,978.20
	francs	4,545,578.20

The *Société Suisse* of Zurich is the only one of the Swiss institutions covering hail risks which is re-insured. This Society is re-insured in virtue of a reinsurance agreement on the basis of partial reinsurance and of excess loss with the following societies : the *Compagnie Suisse de réassurance* at Zurich, "*La Suisse*", *Compagnie Anonyme d'assurances générales* at Zurich, the *Société Suisse d'assurance contre les accidents* at Winterthur, and "*La Générale*", *Société anonyme d'assurances* at Beine. The *Société Suisse* has paid in 1930 a total sum of 1,419,242 francs in reinsurance premiums : the reinsurances have yielded in the course of the same year a total sum of 1,497,289 francs on a total of losses amounting to 3,752,851 francs.

The *Assurance-grêle cantonale* of Vaud has been in negotiation for three years with different companies, but no one of these has so far undertaken to reinsure its liabilities. The *Paragrêle* does not reinsure its risks.

Livestock insurance has been practised in Switzerland over a long period. The local private associations, of a mutual and optional character, were the first to give farmers the opportunity of obtaining insurance against mortality of livestock resulting from disease or accident. These communal or intercommunal associations form even at the present time the backbone of the system.

The cantonal and Federal authorities at an early stage gave considerable attention to the fostering of the movement. In the cantons laws were put into force which have tended to make live stock insurance compulsory in the respective areas. These laws contain provisions relating to the subsidising of the local associations; such subventions vary with the cantons and are calculated on different bases: number of head of stock insured, estimated value, amount representing losses, etc. The laws also fix the principles on which the rules are to be established, including questions of organisation, compensation in the event of death of the animals, contributions of the insured owners, expiry of the claim to compensation, etc. A certain number of cantons have not yet made insurance compulsory (Schwyz, Unterwald, St. Gall, Lucerne, Zug, Appenzell); in others the obligation exists only for certain parts of the territory, the communes or groups of communes only in which a certain proportion of the owners of live stock have declared themselves in favour of insurance. In short there is much divergence in this respect.

Live stock insurance is thus carried on in Switzerland almost exclusively by the local organisations which do not come under the federal supervision of insurance societies.

There are no large societies in Switzerland for insurance of live stock. In 1920 there were in Switzerland 2,101 local live stock insurance societies distributed as follows: 1,919 cattle insurance societies with 128,000 members, 45 societies for insurance of horses with 17,000 members, 127 societies for insurance of goats with 1,400 members and 10 pig insurance societies with 700 members (1).

The last report of the Federal Bureau of Insurances, published in 1931 and relating to the financial year 1929, mentions three societies only as operating in this branch of insurance and subject to Federal supervision: the *Mutuelle chevaline Suisse* founded in 1901 at Lausanne (sums assured, fr. 6,775,095, premiums, 262,146, losses 202,203); the society for insurance of horses and live stock founded at Berne in 1925 (premiums, fr. 40,591, losses, 26,452) and the General Insurance at Berne which undertakes this type of insurance only so far as relates to slaughter stock.

There is no reinsurance federation in Switzerland relating to live stock.

In accordance with the provisions of art. 13 of the Federal Law already mentioned of 22 December 1893 relating to the improvement of agriculture, the Federal authorities assign to the cantons in which compulsory insurance of live stock is instituted either for the whole territory or for certain parts of the canton, subsidies which are a first charge on the credits allocated for the purpose on the budget of the year. As stated before in connection with hail insurance, the Government subsidy must never exceed the amount set apart for the same purpose by the canton.

The total amount of the Government subsidies is fixed as from and including 1930 by the decree of 5 November 1929. This decree establishes that the annual subsidies of the Confederation will amount to the same figure as the cantonal subsidies, but for cattle they are not to exceed francs 1.50 for each animal registered in the insurance association.

For animals registered in an insurance association of the mountainous regions and for those registered in another association but having passed the summer on a

(1) The number of co-operative live stock insurance societies subsidised by the Federal Government was in 1930: 1662 cattle insurance societies, 131 societies insuring at one and the same time large and small live stock, and 33 societies insuring only goats. In these figures there are not included the data relating to two cantons, nor the societies for insurance of horses, as these are not subsidised by the Federal Government.



mountain pasture, a supplement will be granted the amount of which may reach francs 0.75. For the small live stock, sheep, goats, pigs, the annual subsidies from the Federal Government are not to exceed francs 0.60 for each animal insured. In 1929 the federal subsidies were calculated on the basis of the former decree of 6 March 1921 (francs 1.25 and 1.75 for cattle and francs 0.50 for small live stock). The same law provides that for the fixing of the Federal subsidy account shall be taken of the number of animals insured at a given date, usually at the beginning of the financial year of the insurance association. The cantons, by agreement with the Division of Agriculture of the Federal Department of Public Economy, fix the date for the count of the animals for insurance.

There is a special law in existence in Switzerland dated 13 June 1917 containing a number of measures to be taken for control of epizootic diseases. It contains among others the following provisions which may be noted here: owners of animals that have died or been slaughtered in consequence of rinderpest, contagious peripneumonia, glanders, rabies, anthrax or symptomatic anthrax, are not compensated by local associations, but directly by the cantons and the Federal Government. The same procedure as to compensation applies in the case of owners of healthy animals slaughtered with a view to the prevention of the spread of the disease in question.

Compensation is equally given whether the animals die of any of the diseases indicated or whether they have to be killed subsequently to the employment of prophylactic measures, *e. g.*, preventive vaccination, as ordered by the authorities.

By the terms of the same law the indemnity assigned by the cantons must be calculated in such a way that, taking into account any proceeds of the sale of the utilisable parts, the owners of the animals are compensated in the cases mentioned to the extent of from 70 per cent. to 90 per cent. as the case may be of the estimated value of the animals that have died or been slaughtered.

The Federal Government assigns to the cantons subsidies of from 40 to 50 per cent. of the expenses incurred in connection with the carrying out of the measures prescribed as above.

The following table is taken from the Report of the Federal Council on its working in 1930 which gives a summary for 1928 and 1929 as regards the number of animal insured, of losses, of compensation payments made, as well as the total amount of the subsidies conceded by the public authorities.

	Number of insured animals	Number of losses	Compensation payments made		Cantonal subsidy		Federal subsidy
			total sum	per head of stock died or killed	total sum	per head of stock	
Large stock . . .	842,499	28,394	5,924,201.88	209	1,400,878.03	—	1,084,976.18
Small stock . . .	35,107	2,149	81,828.03	38	23,546.90	—	17,748.50
1929 . . . . .	877,996	30,503	6,006,030.81	—	1,404,424.03	—	1,102,724.0
1928 . . . . .	894,846	31,852	5,883,781.80	—	1,494,808.62	—	1,116,566.48

In the 17 cantons where live stock insurance is obligatory, the owners are mainly insured with the local associations. There is not much business done by insurance societies under Federal supervision, as appears from the following figures:

	Premiums	Compensation payment
1925 . . . . .	331,041	212,727
1926 . . . . .	346,130	228,264
1927 . . . . .	354,406	253,846
1928 . . . . .	373,438	276,026
1929 . . . . .	324,190	241,109

For the financial year 1929 there is even a falling off. According to the Report of the Federal Bureau of Insurances the reduction in the total of the premiums is solely due to a particular kind of insurance, the insurance of slaughter stock, which had acquired a certain importance on the Basle market. It appears that the interests taken in this type of insurance has diminished. The premiums banked for the insurance of slaughter stock in 1928 amount to 80,410 francs; for the year 1929 the total amount was not more than 21,353 francs.

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BAUER-MENGELBERG (Dr. Käthe), Privatdozent an der Handelshochschule Mannheim, Professor am staatl. Berufspädagogischen Institut Frankfurt a/M. "Agrarpolitik in Theorie, Geschichte und aktueller Problematik". Verlag und Druck von B. G. Teubner, Leipzig und Berlin 1931. Seiten 248.

[It is symptomatic for German post-war agriculture that so many books have appeared dealing with agrarian policy as main topic. During the last decade scarcely a year has passed in which some new work on agrarian policy or a new edition of some former work has not been registered. In this connection there need only be mentioned the works dealing with this subject by AFREBOE, BRENTANO (2nd edition), FUCHS SCHULLEIN-SCHRATTERHOFFEN, SKALWITT, WYGODZINSKI (2nd and 3rd editions). Among these are works planned on a large scale which cover the entire field of the theory and practice of agrarian policy. There are in addition works which discuss isolated problems of agrarian policy, and emanate from such distinguished writers on the subject as SERING who treats the questions of home colonisation, the trade in cereals, RITTER dealing with tariffs on cereals, BECKMANN with the problem of credit, and so on. An increasing interest, however, attaches to the economic aspect of agriculture, because in contrast to the pre-war time the phenomena of agrarian policy now display a certain discontinuity, and accordingly some elucidation of each period, however short, in the course of the history of agriculture seems to be demanded.]

The recently published work of BAUER-MENGELBERG may be ranked among those indicated above. Taking fully into account the most recent developments in agricultural economy, an attempt is made by the writer to describe the fundamental principle and present day problems of agriculture. The book falls into three main sections. In the first the economic theory of agricultural production is discussed; the natural bases of production, the different systems of crop rotation, the varying size categories of farms, in connection with which it is justly remarked that it is possible to speak of an "optimal" size category only in completely defined economic and social conditions. A fairly detailed investigation is made of the pre-requisites and results of intensive cultivation, in connection with the law of rising costs, marketing possibilities and prices of land; and much that is valuable is added in regard to the adaptation of agricultural production to the market fluctuations.

The second part is devoted to questions of the history of land tenure. The gradual evolution of the early constitution of land tenure in Germany from the manorial system of the Middle Ages, through the emancipation of the peasants, to the formation of the *Reutengüter* or farms held on payment of an amortisation rent, is traced, in order to describe in closer detail the land settlement policy in New Germany.

The present day problems of German agrarian policy are handled in the third part. In the first place the importance of agriculture for German economy as a whole is indicated, and a number of arguments are brought to show that under a distribution of

work on the basis of a scientific world economy wherein each type of production is assigned to the locality indicated by natural and economic conditions, the tendency of the post-war period to self-sufficiency, to supply of needs by each from his own plot, can be justified only in quite exceptional cases. The problem of agricultural labour is handled from the legal and economic as well as the social standpoint, credit relations are investigated, the price scissors problem is analysed, the expediency of land taxes is discussed, and so on.

The standpoint adopted by the author is that in modern economic life wherein the chief aim is to arrive at the highest possible earning capacity, and the principal means thereto is rationalisation carried to the furthest possible point, agriculture, the purposes of which are inherently different, seems to be on another plane. The farmers' aims are in fact frequently quite apart from economic interest; in the case of large farms, economic considerations are forced into the background by other points of view, questions of power, of influence, etc. In the opinion of the writer the economic motive has also little weight with the small or family farmer. In agreement with the Russian investigators of this question, and especially with Prof. A. TCHAJANOW, he declares that the small farmer is in no way "homo economicus", but that he merely endeavours to manage his farm primarily in accordance with the dictates of necessity, to meet the requirements of his own family.

This opinion cannot however command complete adherence, seeing that the war and the post-war agrarian transformations have undoubtedly completely shaken the traditional legal and social position of the owner of the large estate, so that property from being a title to possession only has become a means of livelihood, while on the other hand for the class of small farmers the market and prices of products have become all important factors in their outlook.

Elsewhere also it is difficult to be in entire agreement with the conclusions of the writer. He is however undoubtedly to be regarded as in the right in advocating for the maintenance of German agriculture such measures of agrarian policy as are calculated to place agricultural production on a more scientific foundation, and to treat the farm not as a sentimental but as an economic unit which must therefore be constituted in accordance with the logic of economy.

The book which is in convenient form makes a distinct contribution to the better understanding of more than one present day problem of agrarian policy].

HUBBACK, J. A., M. A. (Cantab.), I. C. S. : *Indian Banking, with special reference to Bihar and Orissa*. Patna University Banaili Readership Lectures 1930-31. Published by Patna University, Patna, 1931.

This series of six lectures gives an illuminating account of credit needs and facilities in India, and more particularly in the Province of Bihar and Orissa, whose conditions are most intimately known to the lecturer from his past work and his recent experience as chairman of the Provincial Banking Inquiry Committee which made an exhaustive investigation of the subject in 1930.

In the first lecture an effective outline is given of the organisation of credit in India generally, which consists of two distinct, and to a large extent heterogeneous, elements, namely the Western banking apparatus, on the one hand, and the native bankers, known as *shroffs*, as well as common money-lenders, on the other. The first of these two groups comprises the Imperial Bank, the Exchange Banks, of which the principal business is in connection with the financing of foreign trade, the Joint-Stock Banks and lastly, the Co-operative Banks. The main business of the *shroffs*, as an indigenous banking agency, is that of financing internal trade and filling the gaps in the supply of credit to the native population which are left by the more formal organisation of the banks of Western type. These organised credit agencies, Western and native, are estimated to provide between them for approximately 5/8ths of the total demand of credit in India, the balance being supplied by money-lenders working on their own capital. These fall into several groups, from the more substantial rural *mahajan* or *sahukar*, whose custom is mostly confined to landowners and cultivators, through the smaller village shopkeeper or *bania*, down to the nondescript professional or occasional lender, who thus finds a way of profitably investing any spare cash he may have. In the sphere of purely commercial credit, the commission agent (*arhatia*) and native broker (*dalal*) also play a considerable part.

The conclusions drawn from the survey of credit conditions in India are that the existing banking organisation is still inadequate to the demands made on it, and that organised banking plays an important part only in purely commercial credit. The

*shroffs* still supply a large part of the credit facilities, though their share in the business is declining. In the rural districts, organised banking is represented only by co-operative institutions, and the population depends on private money-lenders for accommodation. Indigenous banking is out of touch with the organised credit apparatus and is but slightly connected with the business of rural money-lending, though it plays an important part in rural trade. The remittance business is, on the whole, fairly well organised, but its costs could be reduced considerably.

The next two lectures deal respectively with the Credit Needs and the Credit Supplies of Bihar and Orissa, about which one learns much that is interesting. Characteristic is the high proportion which unproductive borrowing bears to the total estimated needs of credit of the population; also the fact that "interest rates tend, like many other things in India, to be customary and not economic". The principal problems of rural credit organisation, are "first to reduce the rate of interest, second to remove the dead weight of existing debt, and third to link rural credit in with the general credit system". The Provincial Committee gave considerable attention to the question of working the rural money-lender into the organised credit system, but had to content themselves with suggesting registration as a compromise.

With regard to the Co-operative Banks, the prospects of which are dealt with in the fourth lecture, the view is expressed that "the most important recommendation is that short term and long term business in the central banks should be rigidly separated", as otherwise the continuous increase in their long term loans tends to lock up too much of their working capital. The most unsatisfactory feature of the present position in this respect is that this long term business arises not out of the provision of genuine long term accommodation, but out of the indefinite renewal of relatively short-term loans by the revision of *kinds* or dates of maturity. What the Lecturer calls by the name of "side shows", or the excessive development of lines of business outside the scope of purely banking activities, is another feature of the present position he strongly condemns. Co-operative banking is also advised — and with reason — to fight shy of the encumbered and improvident landlord, whom to save is beyond its power, but who may prove very dangerous for the financial standing of credit co-operation.

The success of credit co-operation depends, in the first instance, on its ability to educate the borrower in the use of credit facilities, secondly, it must satisfy demands quickly, avoiding red tape, or otherwise be defeated in its struggle with the usurious money-lender; finally, it must concentrate its energies and resources in its legitimate field of work, without engaging in side-shows.

Lecture V deals with Commercial, Industrial and Consumers' Credit, for the development of which it is suggested that the old Indian credit document, *muddat hundis* or accommodation bill, should be allowed a reduction in the stamp duty, which at present weighs on it very heavily to its disadvantage, and that the liabilities arising out of it should be defined by law, instead of by custom, as they now are. In order better to organise the resources of the Indian money market, the *shroffs* should be brought into closer association with Western banks: a step which would necessitate "on the part of the former the lifting of the *pundah* which at present conceals their business from their associates in the world of credit".

The last lecture, dealing with the principles on which the control of the credit system by Central Banks is organised in various countries, contains suggestions concerning their eventual application to India.

The book under review possesses the merit of condensing much material in the space and presenting it in an attractive form, and may be recommended to those interested in Indian economics.

The Routine and Seasonal Work of Nebraska Farm Women by RUTH CLARK and RITA GRAY — University of Nebraska

This interesting study on the conditions of the Nebraska Farm Women is the result of a painstaking survey conducted by the authors in 1927-28 and is based on carefully checked data obtained from 179 Nebraska Farm Women. After furnishing a detailed account of the home activities of the women questioned, the study takes up the problem of the woman's contribution to the work on the farm. The conclusion reached by the authors is that Nebraska farm housewives are, on the whole, overworked. Road improvements however and modern machinery are tending to ameliorate their conditions, but there is much yet to be done in this respect, and a good deal of drudgery can be avoided by generalising the adoption of labour saving devices.

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### AGRICULTURAL ECONOMICS AND SOCIOLOGY

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No. 3

#### CO-OPERATION

##### Agricultural Co-operation in Norway (*concluded*).

#### III. -- ORGANISATIONS FOR PRODUCTION AND SALE.

##### *A. Co-operation in the Dairy Industry.*

As already indicated, milk, butter and cheese are the agricultural products the sale of which was first organised in Norway on a co-operative basis. Thus the first co-operative dairy was founded about 1855 and in the following years a large number were formed in different parts of the country. Towards 1900, according to the official statistics there were from 800 to 900 dairies for butter making, cheese-making, sale of milk, milk receiving depots and condensed milk factories, the greater number of which were co-operative in character. By 1920, in consequence of amalgamation and difficulties during the period from 1915 to 1920, the number had fallen to 552, afterwards again increasing. In 1929, the year to which the latest statistical data of the industry refer, the total number was 650 (1). Nearly all the dairy societies are organised on a co-operative basis working on the following bases

The members of a co-operative dairy undertake, usually for a period of five years, to deliver the whole of their milk production to the dairy, except the quantity used in the household and for the rearing of young animals.

The necessary capital is met by the payment of contributions of 50 crowns per cow raised on the farm. The rule is that a part only of the capital is paid in cash. For the remainder the members supply guarantees which the society may place in a bank as security for the loans. As regards the financial obligations of the dairy society, individual members are only responsible in the proportion of their shares.

The greater number of co-operative dairies under their rules prohibit members from transferring shares to another person without permission of the management, and so as to make sure that they are retained in the producers' hands many societies have further arranged that in cases of sale, decease etc., the shares should

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(1) The distribution of the dairies according to the kind of production was as follows: 74 dairies for sale of milk, 196 milk receiving depots, 62 dairies for butter making, 41 mountain dairies (*seiermeierier*), 23 dairies for combined manufacture of butter and cheese, 13 dairies for the manufacture of old types of cheese (*Gammelostysterier*), 18 dairies for the manufacture of soft cheeses, 39 for the manufacture of cheese with sour whey, 180 dairies of mixed production and four condensed milk factories. For assignment to one of the groups mentioned, at least 90 per cent. of the milk received at the dairy must be utilised for the production characteristic of the group in question. Where this is not the case, dairies are placed in the group of 'mixed production', a group which has been increasing during the last few years from the fact that there is a growing complexity in the production of very many dairies.



go with the farm. The societies are directed by an administrative council consisting of from three to five members, elected by the General Meeting, the supreme authority of the undertaking.

The majority of the societies make payments on the basis of weight and butter fat content and in general the suppliers receive payment once a month reckoned on a lower price than the quotations at the moment of delivery, while the surplus is distributed at the end of the year proportionately to the quantity of milk sold.

About one-third of the total production of milk in Norway — which is estimated at 12 million kgs. per year — is handled by the dairy societies, while as regards the other two-thirds, one-third is consumed in the households of the producers or utilised for live stock feeding, and the other is sold by the producers themselves for direct consumption or under the form of butter or cheese.

According to the statistics given by the Central Bureau of Statistics for the dairy industry of Norway, the quantity of milk received at the dairies amounted in 1929 to 408.9 million kgs., 4.9 million of which was goats' milk. Except for the quantity utilised for the manufacture of condensed milk, 26.5 per cent. of the whole milk handled by the dairies was in 1929 utilised for butter-making, while 24.6 per cent. was transformed into soft cheese and half of it (48.9 per cent.) sold as milk for consumption.

As regards capacity, there is a clearly marked tendency towards the formation of larger undertakings. In 1929 out of 650 dairies, 121 handled from 500,000 to 1,000,000 kgs. of milk per year, 52 from one to two million kgs., while 44 handled more than two million. During the last few years an increase has been noted also in the group of the smaller dairy societies, *i. e.*, those handling less than 100,000 kgs. per year. This is explained by the increase in the number of mountain dairy societies (*setermeierier*) which all belong to this size group.

In 1929 the dairy societies paid to their suppliers 69.3 million crowns or 17 öre per kg. of milk. During the previous years the price steadily fell, the average price in 1925 being 30.7 öre, 21.2 öre in 1926, 18.5 öre in 1927 and 18.3 öre in 1928. The average working costs of all the dairy societies of Norway (with the exception of the condensed milk factories which have not supplied data) was 4 öre per kg. of milk received at the societies' premises. However, as might be expected, the prices paid to the suppliers and the costs of working varied somewhat considerably according to the district and type of production. The following table gives particulars of these variations and at the same time supplies details on the factors entering into working costs. Not all the societies are covered by the table, but merely those which from this point of view have supplied complete figures to the Statistical Bureau.

Detailed information is not available in regard to the economic position of the co-operative dairy societies; on the whole however it may be reckoned to be good, as a large number of societies are working on their own capital.

*The Export Association of Norwegian Dairy Societies (Norske meieriers eksportlag).* — As long as the sale of products of the Norwegian dairy industry was conducted almost exclusively on the local and regional markets — as was the case a short time ago — the conditions were relatively favourable. When however in the last few years the production of milk began to increase and the home market could no longer absorb all, the price of butter and cheese, owing to competition between the societies, sometimes fell below the world market level; and this in spite of the somewhat high import duty placed on these products and of the fact that their production was only a very little in excess of home requirements. The export of dairy products was in too many hands, and the want of a central organisation

*Prices paid to Suppliers and Costs of Working in 1929 for the Dairy Societies with differing types of Production.*

	Milk handled per society 1,000 kg.	Price paid to suppliers öre per kg.	Wages	Cost of working (öre per kg.)			Total
				Lighting, heating and power	Taxes, interest and insurances	Other	
Societies for sale of milk . . . . .	614	18.18	1.15	0.30	0.33	1.35	3.13
Milk receiving depots . . . . .	543	15.39	0.51	0.18	0.15	1.31	2.18
Buttermaking dairies . . . . .	101	9.69	0.50	0.24	0.11	0.80	1.65
Mountain dairies . . . . .	30	19.73	1.70	0.95	0.56	1.30	4.51
Societies for manufacturing soft cheese . . . . .	260	12.30	1.63	0.97	0.99	1.32	4.91
Societies making cheese from sour whey . . . . .	645	14.87	1.07	0.84	0.45	1.09	3.45
Societies combining the manufacture of butter and cheese . . . . .	447	12.68	1.36	0.72	0.99	1.58	4.65
Societies for manufacture of old type cheese . . . . .	404	15.77	0.93	0.40	0.28	1.12	2.73

which would be in a position to effect concentration was increasingly felt. Finally in 1928 the efforts for the realisation of this scheme were successful, and the Export Association of Norwegian Dairy Societies was founded.

The purpose of the Export Association, the headquarters of which is at Oslo, is to encourage butter and cheese production, to export the surplus of these products and to regulate their sale on the home market, so as to prevent their price in the country itself falling below world market prices. The affiliated societies must undertake to deliver to the Association the whole of their production of butter and cheese, except the quantities which they sell in their own shops, or, without intermediaries, to retailers. Contributions are made in 30 crown shares, one for each 100,000 litres milk received by the societies, and one for every 100,000 litres transformed into butter and cheese.

Arrangements are made by the Association with a convenient number of societies for producing and delivering quantities of butter and cheese for export with the object of keeping the home prices at a reasonable level. Any losses in the working of the Association are divided between the member societies in proportion to the quantities of milk handled during the last financial year, without taking account of the manner of utilisation.

The majority of the large societies, handling about 220 million kg. of milk in 1930 or more than half the milk handled in all the Norwegian dairy societies, are members of the Association, the activity of which has been up to the present very satisfactory.

It works in close connection with the National Norwegian Federation of milk producers, to be mentioned later. This collaboration between the two great organisations will undoubtedly give the Export Association in the near future a still greater importance by transforming it into a Central Export Union for all the Norwegian dairy societies.

*The Central Dairy Unions.* — By the formation of the Export Association of Norwegian Dairy Societies a great step forward was made in the stabilisation of prices of butter and cheese, but it was scarcely to be expected — although hopes were entertained on the fluid milk market — that the activity of this organisation in itself would in the long run prevent the price of milk as milk, or fluid milk, from falling below the level of the price paid for milk intended for transformation into butter or cheese, a fall which must mean serious difficulties for the producers.

It was only the supplementary price paid after the war for milk to be consumed as milk, that made it possible for producers to meet the reduction of prices on the market of milk intended to be otherwise utilised. In 1929 a veritable "milk war" broke out in a number of localities between the dairy societies of long standing in the towns and the suppliers from distant districts who owing to improved communications could now place their milk on the more remunerative fluid milk market. It soon became clear that the position of the producers could only be saved by the formation of a strong organisation grouping practically all the milk producers in the country, and by the payment to distant suppliers of an indemnity designed to keep them away from the large fluid milk markets. A Committee was formed to enquire into the matter, and in the following year 1930 found it possible to submit a scheme of organisation. The main lines of this organisation which is now functioning and has already proved of great benefit to the producers may be stated as follows.

The whole of Norway is divided into seven zones determined by natural boundaries, each with a Central Dairying Union which all suppliers of milk to societies, retailers and consumers are invited to join as members. The dairies, co-operative and private alike, may be attached also but not as members. In accordance with the plan of organisation no Central Union could begin to function unless 80 per cent. at least of all the milk produced in the district were assured to it, a condition which was fulfilled within a short time in all the seven districts.

The different Central Unions vary in importance, the largest handling 250,000,000 kgs. of milk per year, the smallest 10,000,000 kgs. only, but they are all founded on the same principles although differing somewhat on matters of detail.

The members of a Central Union who sell their milk directly to consumers are expected to pay over to the Union two öre on each litre of milk sold, the total sum being paid in the form of an annual contribution per cow, varying between 12 and 15 crowns according to the intensity of milk production in the different districts. Members in this class undertake to maintain a certain minimum price for their milk. According to the agreement with the Union any milk not sold for direct consumption may be sold by these members at a certain fixed price to certain dairies for the manufacture of butter or cheese.

Members supplying milk to retailers and to shops pay to the Central Unions a contribution, usually reckoned at two öre per litre, but in certain districts at three to four öre. The contribution is paid to collectors or into a bank. These suppliers are obliged to ask the same retail price as the dairy societies and to accept only milk coming from producers affiliated to the Central Union.

The two classes of suppliers mentioned account for about ten per cent. only of all the fluid milk sold by members of the Unions, 90 per cent. of which goes to the dairy societies. As already stated the main purpose of the scheme was to induce the societies in the more distant areas to give up any attempt to compete on the larger fluid milk markets. This problem has been solved in a slightly different way in the different districts, but the general principle has everywhere been to make a levy on the sale of fluid milk and thus form a fund from which compensation may be paid for milk used in the manufacture of butter and cheese. Any particular society has thus to pay a fee or levy to the Central Union or has to receive an indemnity, according as the quantity of fluid milk sold by it is large or small.

Although the Central Unions formally assume the position of sellers of all the milk of the member societies, only the balances in adjustment pass through their accounting offices, and as the greater part of the societies undertake both the pro-

duction of butter and cheese and the sale of fluid milk, these balances are relatively small and usually amount only to from five to ten per cent. of the total value of the sale of fluid milk. The remainder is retained by the societies for payment of the producers.

The adjustments are made on the basis of reports of delivery to the Central Unions which are sent in by the societies immediately on the close of each month. These contain particulars as to the quantity of milk received at the society, as well as on the quantities used for manufacture of butter and milk and sold as fluid milk. It was clear from the beginning that the success of the scheme would depend in great measure on the accurate and rapid discharge of this obligation to supply reports, and accordingly it was noted with satisfaction that, in respect of the first month, the number of reports received five days after the end of the month was sufficiently large to make it possible to calculate the balances.

As already stated the producers have already reaped great benefit from the activity of the Central Unions. Thus in the Östlandet district, the first in which a Central Union was formed, the price of fluid milk has been successfully maintained at the same level during the period for which the Union has been functioning, that is for nearly a year, and this in spite of the simultaneous fall by 5 öre per litre of the price of milk intended for the manufacture of butter and cheese. Such a stabilisation would naturally be impossible if the field were left free, when it is obvious that the cheap milk intended for transformation would invade the fluid milk market and ruin it. It should be added that the price stabilisation has not in any way brought about a decrease in milk consumption, which was feared in certain quarters. In fact the contrary has occurred, and milk consumption has increased during the time following the beginning of the activity of this Union.

A fact worth mention is that the costs of administration of the Central Unions are relatively small. In the Östlandet Central Union, for example, which groups nearly 96 per cent of all the milk producers of the district, these costs amounted for the first financial year to 0.06 öre only per litre of milk handled.

Several forms of State assistance have been given to the active organisation of the milk trade, including the authorisation by a law passed in June 1931 of the Unions to request producers, who are not members, to pay a contribution in respect of milk sold corresponding to that paid by members. This measure will naturally greatly strengthen the position of the Central Unions.

*The Norwegian Federation of Milk Producers (Norske Melkeproducenters Landsforbund).* — In the month of August 1931 the seven Central Dairying Unions became grouped in a common organisation, the Norwegian Federation of Milk Producers. This is a reconstruction of a formerly existing organisation of co-operative dairies and dairying associations which gave special attention to improvement of the production of societies, to price quotations, etc.

In order to cover the expenses of the Federation, the members pay a contribution of 40 öre for every 1000 kg. of milk sold during the previous financial year, and undertake in addition to take a share in payment of the costs of the Export Association, and to prevent any competition between the dairy societies of a Union and those in the area of another Union, except by permission of the Federation. As regards contributions to the payment of the expenses of the Federation and the Export Association, it should be noted that these will not be required so long as the State imposes the milk sales tax (1).

(1) With the object of encouraging the co-operative sale of milk, cheese, butter and bacon, the Norwegian Parliament adopted in June 1930 a law by which a Marketing Council was established, and

The governing bodies of the Federation are the general meeting, the committee of representatives and the Management Council. The general meeting consists of members of the Committee of representatives and of the Management Council as well as of delegates of sub-sections. Members of the Federation who sell less than five million kg. of milk elect one delegate, those who sell more than 10 million kg. two delegates, and members selling more elect one more delegate for every 10 million kg. sold. Every member taking part in the general meeting has one vote. The general meeting appoints the Management Council and the Committee of representatives, regulates production and prices and undertakes other important business. In the Committee of representatives, consisting of 15 members with the same number of proxy members, each Central Union affiliated to the Federation has at least one representative. The duties of the Committee include the preparation of questions for submission to the general meeting and to supervise the carrying into effect of the decisions taken by the meeting.

The Management Council of three members and the same number of proxies form, together with three representatives of the Export Association of Norwegian Dairy Societies, the Central Board of the dairying industry (*Meieribrugets Centralsyre*), the function of which is to represent the Norwegian dairying industry in relation to other countries.

### B. Co-operative Slaughterhouses and their Central Organisations.

The first co-operative slaughterhouse was founded in Norway in 1899, but owing to the inexperience of its founders and to the fact that production was insufficient to support the enterprise, its activity came to an end after two years, and it was only some ten years later (in 1910) that the first co-operative slaughterhouse to have a successful working was established and is still in existence. Apart from this one, there are at present eight others in Norway, all based on the same principles as that of Oslo, and also a private undertaking at Hammar which was founded in 1904 but later underwent up to a certain point modifications inspired by co-operative principles.

The members of a co-operative slaughterhouse must undertake to deliver to it over a period of five years the whole of their production of slaughter cattle. Sale to consumers in the neighbourhood and in the neighbouring town is however permitted. On entry, the members pay a contribution to the working funds of from three to five crowns per unit of cattle (*storfa*) raised on the farm, and undertake a guarantee of a sum of from 10 to 20 crowns per similar unit. The guarantee may be deposited in a bank as security for loans. Other necessary funds are provided by the society itself paying in one per cent. on the turnover to the working capital. Payment for the animals is effected on the basis of the price quotations of the society, quality being taken into account. The Board of Management of the society is elected by the Committee of representatives, which is chosen by the members and by district, the number of representatives being proportionate to the sum guaranteed by each district. The larger number of the slaughterhouses also engage

In order to finance its activities imposed from 1 March 1931 and for the duration of one year a tax of 0.2 öre per kg. of all milk delivered to a dairy society, cheese-making society, condensed milk factory or other enterprise selling milk or dairy products. A similar tax was also introduced later on pig carcasses passing the official inspection of meat, and one on milk sold directly by the producer to the consumer.

in the transformation of the meat, as for example, salting, smoking, preparation of pork products and of preserved meats.

As already shown in the Introduction, the membership of these slaughterhouse societies was 30,000 in 1930 while the turnover amounted to 20.5 million crowns, as compared with 19.2 in 1929, and the net profit amounted to 234,000 crowns and the paid up capital and funds to 2.5 million crowns.

The co-operative slaughterhouse societies have been grouped into a central organisation known as the *National Federation of Norwegian Slaughterhouse Societies* (*Norske slagteriers landslag*) founded in 1930, the purpose of which is to encourage collaboration between the different societies and to protect their interests. The societies are also members of the *Norwegian Central Union for Porkmeat* (*Norges Fleskecentral*) established in 1931. This is a national organisation with membership open alike to slaughterhouse societies and to private producers. The function of this Union is to stimulate pork production and consumption, and to regulate the home market by means of export and of preservation of production surpluses, thus preventing the fall of the prices on the home markets below the level of the world market.

The members of the Central Union at present numbering about 90,000 undertake to deliver to it all porkers and all pork meat intended for export or sale at Oslo, which is the principal local market, half the pork sold in Norway being sent to the capital for sale. In respect of operations of transformation and sale on markets other than Oslo, members, whether societies or individual producers, remain quite free. Provision is made in the constitution for the possibility that the production of any kind of meat other than pork may assume in the near future such an importance that it would be necessary to export in order to maintain prices at a reasonable level; in such a case members would be obliged to deliver the corresponding items of live animals and killed meat intended for export or sale at Oslo.

Individual members pay an entrance fee calculated at the rate of 50 öre per 4 year old pig of their raising, taking the average over the last few years. This contribution may be paid by means of deductions made on the amounts due on deliveries. Members must bind themselves for a period of five years beginning from 1 January 1932. After such period they may withdraw from the Union by giving six months notice in advance. Payment for deliveries which is made in accordance with rules established by the management is calculated on a free at Oslo basis, and settlement takes place as soon as possible after delivery. Once a week at least the management establishes price quotations based on the minimum prices.

The supreme authority in the Central Union is the general meeting, the members of which are elected by area, one for a certain number of members of the Union. The assembly appoints the management of the Union which consists of seven members, an executive of three members being appointed from among these. This Committee by consent of the management takes the responsibility for the daily working. An Inspection Committee is also elected by the general meeting, and supervises the carrying into effect of the measures resolved and also deals with members' complaints.

### C. Co-operative Egg Marketing.

The first attempts at co-operative marketing of eggs were made about 35 years ago, the earliest egg collecting circle being formed in 1896. Progress was however slow and at the time of the outbreak of war, forty egg circles only had been formed.

A certain number of these were wrecked by the war partly owing to the exceptionally difficult marketing conditions, partly to the rationing of livestock feeds.

Some years after the end of the war however there was a marked revival of the movement and at the present time there are 440 local egg collecting circles in existence in Norway with a total membership of 13,000 persons. The local circles are grouped into eight Central associations covering large districts, and these are again combined into the Norwegian Federation of Egg-collecting Associations (*Norske Eggcentraler*) the object of which is to act as wholesale agent for members as regards sale of eggs in Oslo and for export.

Admission to membership of egg collecting circles is conditional on payment of an entrance fee of 5 crowns to the working fund, the taking up of a fifteen crowns share in the Circle, and the acceptance of joint and several liability as guarantee for a sum corresponding to the total capital of the Circle. Members must in addition undertake to remain in the society for at least five years and during the period of membership to consign all fresh eggs produced on their farms except those reserved for household consumption and for hatching.

They must also undertake to collect the eggs from the nests once or twice a day according to the season and to send them twice a week to the Circle of which they are members. Members delivering eggs that are not fresh are fined. Eggs are marked by the members, with the mark of the Central association concerned, the number of the Circle and the member's own number.

The local Circles make payments to members twice a month out of the amount received by the Central associations for eggs consigned, less a certain deduction to cover expenses. Eggs are bought by the Circles by weight. At the end of each year, the net profit is distributed among the members proportionately to the sums paid for eggs consigned.

The supreme authority of the egg-collecting circles is the general meeting which meets once a year and elects the management Council consisting of three members. This council appoints the manager and performs all functions which do not devolve upon the general meeting.

For affiliation to a Central association, the rules of a Circle must include the joint and several liability of the members, the engagement for delivery of eggs and the undertaking to supply only eggs that come from the members' own farm. The Circles undertake not to withdraw from the Central association before the expiry of five years, after which time the engagement is renewed from one year to another.

Circles are expected to take up with their respective Central associations one fifteen crown share for each of their individual members and to remit to the Central association a guarantee making all the members of the Circle jointly and severally liable to the association for a sum equivalent to the total of the capital of the Circle. The deed of guarantee may be used as a pledge for loans.

The supreme authority of a Central association is the Committee of representatives, and the Circle has the right to send one delegate for each 25 members to the meeting of this Committee. No Circle is however authorised to send more than three delegates. The management Council consists of five members and is appointed by the Committee of representatives.

In the same way as the individual members must undertake to deliver all their eggs to the local Circle, so the Circles must undertake by contract to deliver all eggs produced by their members to the Central association. Circles not conforming to this undertaking are excluded and lose their shares. Payment is made to Circles for eggs by weight, and once a month after consignment.

The National Federation of Central Associations (*Norske Eggcentraler*) is a

limited liability company and the affiliated Central associations subscribe each one share of 100 crowns per every 100,000 crowns worth of eggs sold in Oslo or exported during the previous year. The Central Associations are also expected to sign a five year undertaking obliging them to sell through the Federation all eggs intended for export or for sale in Oslo, and to conform to certain rules relating to conservation, refrigeration, packing and sending, etc. If withdrawal at the end of the five years is intended, six months notice must be given; subsequently withdrawal may take place at the end of any year if six months notice in writing has been given. The breaking of contract by affiliated Central associations may involve forced withdrawal, and the loss of shares and other rights.

By the terms of the contract with the Federation, the Central Associations are expected to sell eggs only in their own district. All Central associations requiring to buy eggs to meet local needs must do so through the Federation which obtains large quantities required from another association which has a surplus. Eggs delivered to the Federation are paid at the average price obtained during the week of sale less a deduction to cover expenses. The surplus profits remaining at the end of the year after payments to the reserve fund are distributed between the affiliated Central associations proportionately to the eggs sold by the Federation.

The supreme authority of the Federation is the Committee of Representatives which is elected each year by the Central associations, each one of which sends one representative for each 250 crowns' worth of eggs, or portion thereof, sold through the Federation. The Committee of Representatives appoints the Council of management which consists of three members, decides how the surplus is to be used, appoints an auditor of accounts, and votes on any proposed modification of the rules. The Management Council elects the manager, makes rules for delivery, reception and packing of eggs, publishes price quotations, etc.

Out of the total Norwegian production of eggs in 1930 which is estimated at about 18,000 tons, from 11 to 12 metric tons have been sold and the remainder kept by the producers for household use. The export has been small, not more than from six to seven hundred tons. Out of the quantity sold, in 1930, it is true, only from 25 to 30 per cent. are accounted for by the co-operative system, the actual figure being 2,800 tons, but in spite of that, the influence of the co-operative movement is none the less considerable. It must be remembered that in the first place a large proportion of eggs sold pass directly from producer to consumer on the small local markets and hence do not enter into trade in the strict sense, and on the other hand that co-operative undertakings occupy a leading place in the supply of the more important consuming centres such as Oslo where nearly half the eggs sold come through the *Norske Eggcentraler*. As a result of the activity of this organisation, the prices reached in 1930 were on the average much higher than those of the world market, while in 1924, for example, when production and export stood at the same level as in 1930 and organisation was imperfect, the price level of eggs was much below that of the world market.

#### D. Other Co-operative Organisations of Production and Sale.

Of less importance in comparison with those already mentioned are the other co-operative organisations in Norwegian agriculture, including societies for the sale of fruit, vegetables, berries, honey and wool, etc. Co-operative societies for the sale of berries make a special object of encouraging exportation and in particular that of bilberries of different kinds and of black currants. The local "berry socie-



ties", to which belong both growers of berries and persons undertaking the gathering of wild berries, are organised in district associations which in 1930 formed a national union known as *Norges bærslag*. The object of this is to encourage proper picking, grading and handling of the berries, as well as to foster collaboration, to prevent competition and to initiate enquiries as to market conditions. On the other hand this Union does not interfere with business matters which are left to the district associations.

In this report some mention should be made of the co-operative societies for joint sale of agricultural products of all kinds. These are the four *salgslag* which are not specialised for any one product, but undertake to market all the agricultural products of their members. The products most usually so undertaken are bacon, eggs, potatoes, vegetables, etc. No complete particulars are available in regard to membership, turnover, etc. of these societies.

Although not belonging, strictly speaking, to the class of produce selling organisations, the local timber-felling syndicates should receive mention, in view of the importance of forestry as a source of revenue for Norwegian agriculture. These are grouped into large selling societies, in their turn grouped in 1929 in the Union of Norwegian Dealers in rough and worked timber (*Norges tømmer-och skurlastselgeres forening*). Fifty per cent. about of the owners of Norwegian forests are thus, as members of the local societies, enrolled in the National Union.

#### IV. — CO-OPERATIVE AGRICULTURAL CREDIT.

The official institutions of agricultural mortgage credit in Norway are the Mortgage Bank of the Kingdom of Italy, the Norwegian Bank of agricultural property and workers' housing and the Norwegian Bank of small holding and rural housing. Since 1915 an important source of agricultural mortgage credit has been also an institution of co-operative character, the Norwegian Mortgage Credit Association for agriculture and forestry (*Norges Kredittforening for land- og skogbruk*) organised on the example of the *Landschaften* associations in Germany.

Satisfactory provision, on the other hand, has been made for credit for working capital by numerous local savings banks and the savings banks of the Central Purchasing Associations. This explains the complete absence of a real co-operative movement for agricultural credit in Norway, on the model of the Schulze-Delitzsch banks and the Raiffeisen societies of other countries.

Although organised as a limited company, some mention should be made here of the Peasants' Bank (*Bøndernes Bank*), founded in 1918, the object of which is to serve as a central credit institution for co-operative undertakings and for savings banks. The bank has a paid up capital of 10.5 million crowns, distributed in series of 500 crowns, and a guarantee capital of 5 millions. The series may be subscribed by co-operative undertakings, savings banks and by Norwegian citizens. Certain co-operative principles are observed for the distribution of profits.

H. LINDSTEDT.

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## LAND SYSTEMS

### Land Tenure Problems in East Africa.

It is an accepted principle that the disposal of land is always of fundamental importance in any form of society, but land policy must have a special significance in territories where as in many parts of Africa, backward native races live side by side with immigrant communities many centuries in advance in civilisation and in material resources. So far a common policy in this respect has not been reached by the administrations of the different African territories in which Europeans have decided to make their permanent home, but there is a general feeling among those competent to judge that great advantage would accrue from joint consideration of the problems relating to land tenure in such territories with a view to securing co-operation in ideas and a more or less uniform policy. In particular this view was put forward at the Pan-African Agricultural and Veterinary Conference, held in Pretoria in August, 1929, by Mr. R. H. THORNTON, Director of Agriculture in the Department of Native Affairs of South Africa. Although the discussion turned rather on questions of improvement of native agriculture and the agricultural training of natives than on the fundamental question of land tenure, the resolution adopted was one recommending to the Governments of all the States represented at the Conference the advisability of arranging for triennial conferences between officials engaged on native agricultural development, and stressing certain important principles of native land tenure.

It may be stated at the outset that, for reasons that will be later indicated, the general policy of agricultural segregation as opposed to any system of native share-tenants, is approved : in other words, that of native owned lands apart from the European owned lands on which latter, of course, natives may be employed as wage-earners.

This being granted, two outstanding considerations should be kept in view in dealing with the question of native land rights ; these have been described re-

spectively as the "protective" and the "constructive" need. By the protective need is meant the fixing of the areas to be set aside for natives and the provision for due preservation of their rights, so far as they are beneficial, over such areas. By the constructive need is meant the provision for so dealing with the actual use of the land as to secure therefrom the greatest benefit to the natives themselves.

Apart from questions of justice and moral obligation to subject races, it is obviously essential to have full regard to the "protective" principle, if discontent on the part of the native population, with consequent prejudicial reaction on the Europeans, is to be avoided. As regards the "constructive" need, it is only necessary to refer to the wastage consequent on the so-called "fugitive" or shifting cultivation practised by natives, and to the disastrous erosion which results from their habit of grazing excessive numbers of live stock. In both cases the consequence are highly disadvantageous alike for the native and for the European population, and the tendencies should be combatted by all the forces of education.

It is of course impossible to discuss within the limits of a single article the general question of native rights in land in Africa, or even in one territory, in view of the immense variety and complexity of the primitive systems of land tenure in existence. All that is proposed here is to examine for the Native Reserves of one province of Kenya the conditions governing tribal rights as well as the customary rights of occupancy or user in land by an individual member of the tribe or smaller unit, and to show how these conditions are or may be affected by administrative action. The account that follows is mainly a summary of the material contained in the Report of the Committee on Native Land Tenure in Kikuyu Province in the Colony and Protectorate of Kenya, dated November 1929 (1).

It is a principle that must be accepted by administrators that any development of native systems of land tenure should be preceded by the most careful study of the native customs and usages, and it was with this object that the Committee in question was appointed.

Kikuyu Province is formed of the highland area (from 6000 to 8000 feet) (1,830 to 2,440 m.) lying immediately north of Nairobi and extending to Mt. Kenya. So far as its history can be traced it appears probable that before the incoming of the Kikuyu tribe the country was uninhabited forest or at most very sparsely inhabited by hunting tribes. The Kikuyu people seem to have entered from the East or North not as a tribe but as individual families of the nine main clans whose holdings are now to be found scattered over the three Kikuyu Districts, *viz.*, Fort Hall, Nyeri and Kiambu. Hunting claims were staked out over an ever widening area by these families, apparently without much regard to the territorial unity of the clan. The accepted unit of land tenure in Kikuyu province, the "*Githaka*" (plural *Ithaka*), accordingly corresponds to the original use of an area of bushland usually for hunting but sometimes in virtue of first clearing, with a continuous tradition of use extending to the present day. Owing to the native secretiveness in regard to boundaries, the average area of these *Ithaka* is a matter of conjecture; they may vary from 50 to 6000 acres (20 to 2430 ha.) and the average may be from 200 to 300 acres (80 to 120 ha.).

(1) The terms of reference of this Committee were as follows: "A Committee to investigate the system or systems of Native Land Tenure within the Native Reserves of the Kikuyu Province and to make recommendations as to what rules should be enacted to govern the occupation rights of tribes, clans, families or individuals in each or any area, due regard being had to Native Law and Custom".

In spite of their scattered nature, the *Ithaka* almost certainly were originally under clan control. There exist now however very marked differences in this respect between the districts of the province. In the more remote districts any member of the clan can use any vacant land belonging to the clan ; in Fort Hall such rights tend to be confined to the *Mbari*, i. e., groups of families, and in Kiambu (the most southerly district) to smaller groups, such as a man and his family together with his brothers and their families. It is generally understood that the right of use means the right to cultivate, such right tending to lapse if the occupier allows the land to revert to its wild state.

An important feature for the comprehension of the working of the whole system is the existence of the *Muramati* (Administrator), or responsible person living on the *Githaka*, usually the eldest son of the senior branch of the *Mbari* settled there. Even in districts where the whole body of the Elders of the clan still have control, the *Muramati* gives the first decisions on land disputes. The influence of the *Muramati* is most marked however in Northern Kikuyu where subdivision of land is thereby prevented, whereas in Kiambu the "share-owner" becomes the important figure.

This principle of family or clan control of the *Githaka* exists side by side with the right of user or usufruct which may be distributed to sons in inheritance. This usufruct naturally tends to develop into private ownership, as the population grows in density, while the principle of family or clan control tends to restrict the rights of the individual. As remarked in the Report, these two principles "are opposites which have come together into an equilibrium, which appears capable of indefinite continuance in the atmosphere of tribalism which is congenial to it, but which reveals its instability when new factors are introduced". It is in the introduction of these new factors that the crux of the situation lies.

Before discussing the effect of new conditions including those that result from European immigration, certain existing features remain to be noticed, and in the first place a modification found in the Kiambu District of the prevailing tribal theory. In that district, which is the part of the province lying nearest to Nairobi, the possibility of a sale outright of a *Githaka* or part of a *Githaka* is admitted. This has been ascribed to imitation of European custom and such may partly be the case, but it is undoubtedly also in part the result of a tradition of some interest according to which the Kikuyu of Kiambu claim to have obtained their land originally *by purchase* from an earlier tribe, the *Dorobo*. This tradition is deeply rooted and is reflected in certain very elaborate customs and ceremonies that must accompany any case of sale of land in Kiambu to-day between Kikuyu and Kikuyu, such as the planting of certain boundary marks and the handing over of certain ceremonial gifts. In connection with this definite departure from tribal theory, it may be noted that in this District the *Muramati* becomes practically independent of the clan control, while, speaking generally, a certain progress in the direction of the small holding under family ownership may be observed.

Another important modification of the strict tribal theory is to be found in the practice by which the individual occupier may admit "tenants", whose position is more or less secure, since any such arrangement between Kikuyu rests essentially on a basis of friendship. Cultivation rights on *Ithaka* of other family groups may, for example, be temporarily acquired in return for a loan of cattle or goats, redeemable by return of the stock with or without the natural increase. Again cultivation rights may be obtained for the asking, on a basis of friendship or relationship and mutual convenience, or sometimes on the basis of adoption into

the clan or Mbari. In the Kiambu District the "loan" becomes the price of an outright irredeemable purchase, and hence tenancy on a loan basis disappears, while the cases of *Ahoi*, or tenants on a friendly basis, are much more frequent. The fact is that the large number of Ithaka alienated to Europeans before the Reserve boundaries were fixed left very many Kikuyu natives landless. A man in such a position will try to make friends with a man who has land rights, takes him a present and asks for a plot to cultivate which is practically never refused. In the Kiambu District also the claim of a landless man on his immediate relations-in-law is recognised, and if there is any available space for cultivation rights it would be contrary to all moral feeling to refuse him.

Although the ownership of the land in Kikuyu may be regarded as vested in the clan, or with the more immediate authority, the Muramati, the foundation of the claim is right of use inherited from an ancestor. Hence for practical purposes the true owner may be taken as the individual heir who may be called a "share-owner". His right is limited (a) by the fact that he has only part interest in the reserve area of uncultivated land to which other members of the Mbari have also rights, and (b) by the extent to which his right of use differs from exclusive use. In the more remote districts many rights are still communal, whereas in Kiambu, exclusive or prior rights are claimed over wild trees, sand, red ochre, iron ore and salt licks, although grazing still remains a common right.

The rights of inheritance of cultivated land and of land not yet cultivated together with the principles governing sub-division are exceedingly complicated, and the Report adds: "No Native Tribunal or District Officer would think of settling a claim without reference to the Mbari elders who alone would be in a position to throw light on each case".

The factors which have brought about modification, if not disintegration of the existing system, are naturally principally if not exclusively connected with European immigration. Apart from direct legislation on matters of land tenure, the main contributory causes have been: (a) the fixation of Native Reserve Boundaries; (b) the growth in population of the Province due largely to the settled conditions and the protection afforded by the Government; (c) the introduction of money; (d) the increased planting of permanent and economic crops.

So long as expansion of territory was possible, there was no bar to the continuance of tribal conditions of land tenure. By the Crown Lands Ordinance of 1915 and the Amendment Ordinance of 1926, reserves of land required for the use or support of native tribes were created, and this reservation implied the converse, viz., that the land not so reserved was alienated or liable to alienation and hence expansion the native population became impossible. Accordingly when congestion could not be relieved by this means, recourse was had to sub-division and the tendency to individual ownership of land was inevitably strengthened.

The increase in population which gives rise to this congestion is very marked: at the present time the 1243 square miles contained in the Kiambu, Fort Hall and Nyeri Districts carry a resident population of 370,096, or a density of 298 per square mile. The more distant areas are at present more sparsely populated, but the average density for the whole of the province is 116 per square mile. This high density results from the great fertility of the soil and its close cultivation.

As money gradually becomes the medium of exchange in place of stock, it inevitably becomes more difficult for the Elders of the tribe to control transactions which necessarily take on a more individual and commercial aspect. It is generally recognised that permanent cropping tends to bring ownership of land on to an individual basis.

In addition certain difficulties inevitably arise in connection with developments necessary for the progressive well-being of the natives in the Reserve. For example the cession of land for the purpose of forming a township is liable to be met with the most stubborn opposition, since under the true Githaka system an outright purchase of land is impossible and hence the tribal conscience is aroused by any proposal of the kind. The same is true of the requirements of social service, such as the permanent buildings desirable for churches, schools, dispensaries, village post offices, nurseries for tree-seedlings, etc. There is in fact no land proper to a public undertaking, although an individual may build on the land of his own family group. Permission may be obtained from the Muramati, as has been done in the case of some three hundred Mission schools in the three districts, but this permission is revocable at will, and the Muramati claims the right to veto the planting of school gardens and the erection of permanent buildings. In short, to quote the Report: "The method by which this opposition can best be overcome and the sympathies of the natives be enlisted for their own advancement is a problem of some magnitude".

On the other hand the consent of the tribal authorities has always been given to the construction of roads and ways when these have been shown to be of public benefit, in fact probably fewer difficulties have arisen than would have been the case under a system of private ownership; the value of a communal system, such as that of the Githaka, finds proof here.

It will be seen however that the tribal theory is not easily adaptable to any system of tenancy, and the position of tenants becomes precarious, as the basis of friendship disappears and the commercial spirit grows in respect of these arrangements. Another potential difficulty which in the Kiambu District will soon call for serious consideration is that occasioned by the continued splitting of the new areas formed by the growing practice in that District of sub-dividing and selling parcels of land. The need for regulation in the near future is becoming apparent.

The situation thus appears to be that the Githaka system is now, owing to the action of the various causes indicated, in course of evolution towards individualism, an evolution which cannot be checked, but may be guided and controlled. It therefore remains to enquire into the principles of the guidance in this respect at present provided by the Administration of the Colony and Protectorate of Kenya and to indicate the lines, as proposed in the Report, along which any further regulations will have to be framed.

The principles viewed as essential by the British Government in regard to native land policy are set out clearly in the Memorandum on Native Policy in East Africa circulated in 1930 to the Governments of all the East African Dependencies. It is therein stated that the first essential is to remove finally from the native mind any feeling of insecurity in regard to his tribal lands. Side by side with this it is regarded as of the utmost importance to ascertain and define the customary rights of occupancy or user in land within the Native Reserves (or, in territories where Reserves do not exist, the native areas). It is also stated to be the intention, while recognising such rights, that every member of the tribe who wishes individually to cultivate land in the Reserve should be able to find land which he can use for the purpose (1). On the other hand, when the general interest so requires,

(1) It should be noted that although the Kikuyu native may still have much to learn as regards methods whether agricultural or pastoral, he is naturally an industrious and intelligent cultivator, and his traditional knowledge of the soil and its potentialities is an asset that cannot be disregarded in schemes for the agricultural development of the territory.

expropriation of larger or smaller plots for new purposes of public utility should not be precluded, but at the same time it is considered as of the highest importance that no such compulsory expropriation of land once definitely allocated to native occupancy or use should ever be permitted for the mere private or personal advantage of any individual, whether of European, Indian, African or other race. If such expropriation is required for public purposes, it should take place only after due notice, full explanation to the natives of the purpose, and a formal public enquiry by some competent tribunal which should determine the compensation to be made. Land allotted in compensation must be land obtained from areas not previously allocated to the natives, equal in extent and as far as possible in agricultural quality, convenience and market value.

It is of interest to note that this Memorandum also contemplates the possibility of individual natives acquiring land on purchase or lease *outside* the Native Reserves, and adds that "the obligation of trusteeship requires that effective opportunity should be afforded to the natives... to take up individual holdings of appropriate extent on lease or by purchase with payment by easy instalments, for cultivation by themselves and their families, on terms that will render this policy genuinely practicable". It will be remembered that in the Union of South Africa, on the other hand, no native is at present allowed to hold land on any terms outside the native territories.

In May 1930 before the circulation of this Memorandum the Government of Kenya passed the Native Lands Trust Ordinance under which the Crown is definitely declared to be Trustee of Natives Lands, and Native Reserves as gazetted in the Ordinance of 1926, "are reserved and set aside for the use and benefit of the native tribes of the Colony for ever".

By the terms of this Ordinance, all lands in native reserve whether already scheduled in the Gazette, or to be later created, and all matters relating thereto are placed under the management and control of a Native Lands Trust Board. This Board, consisting of the Governor, and a prescribed number of official and non-official members, with provision for the appointment of a competent African, acts in consultation with Local Advisory Boards consisting of two official members, one non-official European member and one African member, with the Chief Native Commissioner as *ex-officio* member of every Local Board, constituted for every administrative district in which one or more native reserves may be situated. The wording of the Ordinance safeguards the granting of leases of land in any Native Reserve, by requiring that any such proposal must be previously brought before the Native Local Council of the natives concerned, and also that there must be reason to believe that benefit to the natives concerned will ensue. On the other hand the Governor is empowered to exclude from the Reserves land required for public purposes, and to carry out necessary works on such lands.

The existing tribal land tenure system is highly complicated (1). While already in process of evolution towards individualism, it yet retains elements that block the way to the development of private property. If the Crown is trustee it is so for the tribe as a whole; neither the claims of the "share-owner" as developing occupier nor those of the cultivating tenant can be ignored. It is the opinion of many competent to judge that under the Githaka system there is a tendency

(1) The Report remarks with reference to the working of the Githaka system (p. 41): "the impression is certainly created that, but for a liberal tempering of theory with common sense and a degree of convenient forgetfulness, the system would break down under the weight of its own complexity".

to create a landlord class or at least a class of privileged families, and that the "Aramati" tend to become trustees of sectional interests. For example, it may be to the advantage of the Mbaii, or family group, to allow large areas to be used merely for pasturage for uneconomic goats with a resultant shortage of land and congestion in the cultivated areas. On the other hand, if the patriarchal powers of the Muramati become weakened the result is a general weakening of the respect for authority, and as the Report says: "The policy of working through Chiefs, which is the accepted policy of Government, depends for its success on the respect that the elders can command". There is a further danger, on which some stress is laid in the Report, connected with the tendency towards development of small holdings. If the small holding, by too strict an adherence to the existing system, is to be treated as a miniature Githaka, then by the action of the complicated rules of inheritance in a comparatively short time sub-division will have been carried so far that the part falling to each share-owner will be too small for practicable cultivation. It is of no advantage to the natives if, by too great a fidelity to native custom, a state of things is brought about that has proved disastrously uneconomic in other countries, notably in India.

It was ascertained by the Committee that the consensus of native opinion was for the retention of the Githaka as the unit, and although some doubt exists as to whether the same thing is meant in all the districts concerned, it is clear that the general desire is that the Mbaii or family groups shall be secure in the possession of their lands both for the present and for the future. All natives of all sections are completely at one in asking that land disputes should be settled with due regard for native custom and with due knowledge of it. The Fort Hall natives stated: "Judgments which have been justly given in the Native Reserves by the authorities on the spot who do know the native law and custom, are reversed on appeal (to the Supreme Court at Nairobi) on technical points of English law which are entirely inapplicable. We ask that native land cases be removed from the jurisdiction of the Supreme Court and placed under the District Commissioners". The full significance of this request will be realised when it is remembered that on the one hand the terms of reference of the Committee direct that "due regard shall be had to Native law and custom", and that on the other hand by the expression "the authorities on the spot who do know native law and custom" is certainly indicated the District Commissioner who is also the immediate representative on the spot of the trusteeship which is vested in the Crown. This opinion of thinking natives thus seems to reflect their confidence in the possibility of a reformed Githaka system, and may be said to be in virtual harmony with the view expressed some time ago (1) by a high administrative authority: "It seems preferable that the natural evolution of Land Tenure should not be arbitrarily interfered with, either on the one hand by *introducing foreign principles and theories not understood by the people*, or on the other hand by *stereotyping by legislation primitive systems which are in a transitional state*".

The proposals made by the Committee for rules to be made under the Native Land Trust Ordinance to govern the occupation rights of Tribes, clans, families or individuals may be summarised as follows:

The setting aside of land by Government for a tribe does not confer on that tribe the right to alienate such land or any part of it to any person not a member of that tribe. In other words the land is strictly reserved for the tribe's own use.

(1) LUGARD Lord: *The Dual Mandate in British Tropical Africa*. 1926.



Such use and occupation of the land by the members of the tribe must be governed by native law and custom so far as it does not conflict with the law of the Colony.

A District Commissioner may require that all Githaka within an area be marked out within such time, in such manner and in the presence of such witnesses as he may direct. The method of marking by the use of certain trees and plants in accordance with native custom is however to be preserved.

Registers of Ithaka should be opened in every District under the District Commissioner wherever orders have been issued as above for the marking of Githaka boundaries. These registers should contain :

- (a) A serial number for each Githaka with date of registration ;
- (b) A careful description and estimated area in each case ;
- (c) The name of the tribal or family unit or individual occupying the Githaka ;
- (d) The name and other particulars of the Muramati.

The fee for registration should include cost of a certified copy.

All disputes over Githaka boundaries of over any matter relating to the occupation of land in any Githaka should be first referred by the parties to the local clan elders. Where an agreement is not reached the matter should go to the Native Tribunal which should be given power to deal with such cases.

Any member of a tribe has the right to apply to have any entry in a Githaka register corrected for adequate reasons.

A certified copy of any entry in the Githaka register should be issued to the Muramati with safeguards against its use as a negotiable instrument.

Any " native tenant " who is given notice to quit his holding should have the right of appeal to the District Commissioner who can forbid the eviction if he is satisfied that there is no reasonable cause or that there is no land in the Reserve on which the affected persons can be accommodated.

Erection of permanent buildings in a Native Reserve by any person not a share-owner " of the land to be used for the purpose requires either the permission of the owners covered by the written sanction of the District Commissioner, or the sanction of Government under any rules that may be made.

Roads for general use and convenience of the native community may be made where necessary through any Githaka on the authority of the District Commissioner. Special rules apply to private roads of access over a Githaka.

The free use of common minerals for their own purposes should be allowed to native in their Reserve subject to native law and custom.

In the Kiambu Reserve purchase of land for maintenance and support should be allowed between natives of the same section of the tribe subject to the sanction of the Provincial and the District Commissioners. Such sales should be duly recorded by entry in the Githaka register.

The Committee add that the above rules are suggested first for the Kiambu district only, and the final paragraph would apply exclusively to the exceptional custom of that area. They add that if and when registration of Ithaka is undertaken in other districts, registration of *Muguri* rights, i. e., the rights of the holder on the basis of a redeemable purchase, must also be registered.

The Committee also urge the importance from the native point of view of taking steps to enact a Native Courts Ordinance which should enable native courts to be established which should be independent of the Supreme Court at Nairobi.

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## ECONOMIC AND SOCIAL CONDITIONS OF THE AGRICULTURAL CLASSES

### New Developments in Economic and Social Agricultural Legislation in Spain.

The Government of the Spanish Republic has recognised from the first moment of its constitution the necessity for giving the fullest consideration to the problem of the legal agrarian reform. On the one hand it appeared necessary to revise the whole of the previous legislation, so as to secure for the institutions established under former laws their full efficacy and to bring them into harmony with the spirit of social justice. On the other hand certain legislative measures were essential as preparing for and facilitating the execution of the agrarian reform as a whole, a problem which is of the highest possible importance for Spanish agriculture. The following is a survey of those measures which on account of their greater importance stand out from the rest of the new legal reform.

I. *Mixed agricultural juries.* — On 9 September 1931 the Decree issued on 7 May of that year was declared a Law of the Republic under the title of " Law organising mixed agricultural juries " (*Ley organizando los jurados mixtos agrarios*). The object of this measure is to fix conditions of farm work and to regulate relations between employers and farm workers, as well as between landowners and tenants and between cultivators and the manufacturers who transform the agricultural raw materials. Three types of mixed juries have been established, as follows :

(a) Mixed juries of farm work appointed by associations of workers and employers' associations for regulating the conditions of agricultural labour ;

(b) Mixed juries of rural property, appointed by landowners' associations and tenants' associations for the purpose of regulating the relations between these two classes ;

(c) Mixed juries of production and agricultural industries, with the function of co-ordinating the interests of agricultural production and those of the industries manipulating or transforming agricultural raw products.

The principal functions of the mixed juries of farm work (*Jurados mixtos del trabajo rural*) are: to establish conditions of regulation of work, to prevent disputes between capital and labour and in the case of such disputes arising to endeavour to

arrive at some arrangement, to deal with individual or collective disagreements arising between employers and workers, to supervise the observance of the legislation on social insurances, etc. relative to agricultural work ; to organise Labour Exchanges so that at any time steps may be taken to prevent unemployment ; to make proposals to the Government in regard to measures of a technical or occupational character which are considered necessary for the well-being and development of agriculture ; finally to fulfil any other function that may be of benefit to the workers on the land.

The mixed juries of farm work will be composed of a president, a vice-president, a secretary and 24 members, twelve representing the workers' class and twelve the employers.

These juries will be formed in the regions and provinces in which on account of their agricultural importance it is considered necessary to have such juries. Whenever within the jurisdiction of a mixed jury of farm work there shall be found to be villages with more than 500 farm workers among the inhabitants, mixed Committees may be formed with jurisdiction over smaller areas, which although working on a smaller scale will function on the lines already indicated for the mixed juries of farm work.

The decisions taken by these juries will be by majority of votes, and in case of equal voting the president will have the casting vote, while otherwise he abstains from voting. Appeal may be had against these decisions to the Ministry of Labour who will give the final decision after having consulted the competent Committee. For any infringements of such decisions fines will be imposed, but appeal may be made against fines of more than a certain amount to the Ministry of Labour.

The functions of the mixed juries of rural property (*Jurados mixtos de la propiedad rústica*) will be as follows : to fix the bases of tenancy agreements of agricultural land according to the different types ; to regulate rents of such lands so as to prevent any kind of abuse of conditions ; to cancel clauses in these agreements liable to lead to abuses or clauses which are burdensome ; to intervene in disputes which may occur between landowners and tenants on the subject of improvements in the farms ; to annul any subletting on the petition of a party concerned ; to ensure that the tenancy agreements are in accordance with the law and likely to secure a systematic working of the farm ; to act as judge and to pronounce in cases of eviction other than for default in payment, in which case the ordinary courts will intervene.

As regards localities wherein these juries shall be formed the instructions issued are identical with those already described for the juries of farm work. Like these latter they consist of a president, a vice-president and 20 members half of whom will belong to the class of employers and the others to the category of tenants, and in the sphere of work assigned to them, their functions will be analogous to those of the juries of farm work in their sphere.

The object of the mixed juries of production and agricultural industries (*Jurados mixtos de la producción y de las industrias agrarias*) is to co-ordinate the interests of agricultural production and those of the process connected with the production, when, owing to the pressure of a superior capacity, economic or other, or from the coercive action of some force, some one of the factors of production is left in a position of obvious inferiority, and is obliged to accept actual situations contrary to justice, in which liberty of trading remains so only in name. The functions of these juries are to prevent and resolve the differences or disagreements which arise between the parties ; to interpret the clauses of the agreements concluded between the parties while laying down regulations for the due observance of these contracts and directly supervising such observance ; to denounce any prejudicial clauses in

the contracts, and chiefly those relating to prices, and finally to acquaint themselves with and to intervene in all business which either directly or indirectly relates to the working of these institutions.

The number of these mixed juries of production and agricultural industries will be fixed by the requirements of production and manufacture, and in this way mixed juries may be established of sugarbeet growers and sugar manufacturers, of wheat growers and millers, etc. These bodies will include a president, a vicepresident, a secretary and from three to five members representing each of the parties, according to the importance of the activities which are to be regulated.

A Mixed Committee of agricultural arbitration (*Comisión mixta arbitral agrícola*) will be appointed to act as intermediary between the Government and the three classes of juries. This Committee will act as an advisory centre of the Ministry of Labour in all questions relating to these juries, and on it there will be represented proportionally the different elements of which the juries are composed.

2. *Forced cultivation.* — On 7 May 1931 the Ministry of Public Economy published a decree which was transformed into law on 15 September of the same year under the title of "Law declaring obligatory the cultivation of arable lands" (*Ley declarando obligatorio el cultivo de las tierras de labor*). The obligatory nature of this measure is based on the following principle: "The rights which under the Civil Code are granted to owners of rural agricultural lands, in respect of the privileges derived from ownership (*dominio*) do not extend to the option of abandoning cultivation of these lands, since ownership (*propiedad*), being a social function, cannot be separated from the operations to be applied to fulfil the objects of such ownership".

Owners of agricultural lands under a mistaken idea as to what is in consonance with their interests might abstain from doing their part towards the development of the national wealth and thereby might cause an increase in the unemployment of workers on the land. It is intended to provide by this measure against such a contingency.

According to the provisions of the law when the communal Committees of the rural police note that land which has been cleared is not being cultivated they should make a scheme for its cultivation which is handed to the owner. If he should refuse to agree to the scheme, an appeal may be made within ten days after notification to the Provincial Agricultural Department (*Servicio agronómico provincial*) and once this department has made a decision work must be begun within the space of another two days, or on the contrary the land must be considered as abandoned and will pass for any possible cultivation into the hands of peasants' labour associations legally constituted. These associations will by preference utilise the live stock and the implements of the farms thus taken over, but if none are available, then the members of the association make provision themselves. To meet the expenditure incurred in taking over these farms, e. g., cost of cultivation, wages, fertilisers, seeds, etc., the communes may make use of credits obtained through the National Service of Agricultural Credit.

The profits obtained at the end of the financial year will be distributed in the following manner: a third part to the association which undertakes the farming, another third to the workers in proportion to the quota of work performed, while the remaining third part goes to the commune and may be used to cover any deficit on any similar farm undertaking. If there should instead be a surplus, the commune may devote its share to the unemployment fund or to the Labour Exchanges.

When the provisions of this law were put into practice certain landowners attempted to elude the obligation by stating that they were not the owners of the property but merely tenants. An explanatory Order, published on 12 August 1931

provides that the obligations imposed by the law on compulsory cultivation must be fulfilled by whoever has the charge of the lands, and states that by the term "owner" in the law in question should be understood the person responsible for the farming whether he be owner, tenant, holder in usufruct, partner, or comes under any other category in regard to tenure of the land.

3. *Co-operative Land-holding Societies.* — Following the example of Italy and Rumania, countries in which this type of collective contract has been attended with success, the Government of the Spanish Republic passed a Decree of 19 May 1931, declared law on 9 September of the same year (under the title of *Ley sobre Arriendos colectivos*), by which it is provided that the peasants' labour associations legally constituted may conclude collective landholding agreements in relation to one or more farms. . . "with the object" to quote the law "of remedying the periodical unemployment of the farm workers, and counteracting the parasitic methods of intermediaries who foster the unsatisfactory system of sub-letting. In this way the land hunger of the rural population, the noblest and most intimate aspiration of that calling, will find satisfaction".

Thus agreements can be entered on by the labour associations mentioned in regard to one or more farms, according to the capacity of the association, the object being to work the lands and to distribute the profits of the cultivation in conformity with compacts made among the members in that respect.

Joint landholding agreements may be applied to the following: lands under cultivation and rented which belong to the commune; lands that have fallen to the State as having been the property of persons who have died intestate; lands that have been adjudged to the Treasury on account of indebtedness, provided they are suited for cultivation; lands in private ownership given in free grant by their owners; and finally joint landholding agreements may be entered into in respect of lands not cultivated directly by their owners, so soon as the agreements or leases terminate which encumbered the lands before the present law. In this last case, three months before the termination of such agreement, the association which in conformity with the new legislation desires to rent the lands, may address the owner asking him whether he proposes in the future to cultivate the farmland himself, or whether, on the contrary, he intends to continue the system of letting. If the owner replies in the latter sense, the letting agreement is transferred of right to the association which so desires. This provision constitutes a privilege for the peasants' labour associations in granting them preference in the tenancy agreements over any agreements made with individuals. In view however of the popular and democratic character of the law, this preference as compared with individual agreements will not be given in the case of lands cultivated by the peasants themselves, or with the help of members of their own families, to provide for their own maintenance. The law is mainly directed against improper sub-letting.

The peasants' associations which have obtained lands on the basis of collective land holding agreements may apply to the provincial agricultural sections and to the official agricultural experiment and instruction stations for technical advisory assistance which will be given to their members in regard to selection of crops, methods of cultivation, commercial organisation of sale of products, etc. These associations can also obtain from the National Service of Agricultural Credit (*Servicio Nacional de crédito agrícola*) and from the *Pósitos* the loans they require as working capital. Assistance is also given by the State in regard to insurance, the association being granted facilities for the formation of mutual insurance societies or they are permitted to benefit by the services of the official organisation for agricultural insurance (*Seguro agrícola*).

Although, in general, peasants' associations working a farm collectively are prohibited from employing the paid labour of persons who are not members and the penalty for infringement is loss of the profits allowed by the law to the associations, recourse may be had exceptionally to paid labour in the case of pressing and unavoidable necessity, where the farming would suffer if the work were not performed. In engaging such paid labour preference will be given to labour supplied by another association rather than to individual labour.

A guarantee is given to the owners of the lands of the punctual payment of the annual rent as fixed by the agreement, the law making provision for the formation of a special fund built up by the contribution of 0.25 pesetas in respect of each work day given by the members of the association.

The interpretation of the terms of this law will be within the competence of the mixed juries of agricultural property, already mentioned as of recent creation.

4. *Accidents occurring in pursuit of farm work.* — At the third meeting of the International Labour Conference held at Geneva from 25 October to 16 November 1921, a draft convention was adopted relating to compensation for accidents in employment in agriculture. The official delegation representing Spain at this Conference pronounced in favour of the projected Convention, and on 9 May 1931 the Government of the Republic communicated to the League of Nations the corresponding ratification, and at the same time instructed the Minister of Labour to introduce into the existing Spanish legislation on accident insurance the provisions necessary for adapting it to the Convention. As soon as the bases for the application to agriculture of the Law of accidents in employment were approved, there was also approved on 25 August 1931 the regulation for the application to agriculture of the Law on accidents in employment (*Reglamento para la aplicación a la agricultura de la Ley de accidentes del trabajo*), this regulation being for the future in force on this subject.

For the purposes of benefit from the law on accidents, a worker will be considered as any person executing manual work on the account of another person, and as employer will be considered the individual or corporate body on account of whom the agricultural or forestry work is executed. Liability is incurred in respect of employment connected with: the cultivation of the land in all forms and forest working, whether in either of these machinery is utilised or not, stock-breeding, stock farming and the care of live stock; employment in connection with hunting or shooting of game or with river fishing; work subsidiary to agriculture, such as land drains, irrigation works, land improvements, etc., provided that such works are not of sufficient importance to be included under the general legislation of accidents in employment, otherwise they fall under that law; and finally liabilities are incurred for accidents taking place during the preparation, elaboration, transformation or sale of agricultural, forestry and live stock products.

The terms of the regulation are intended to bring within the scope of the general law on accident insurance any accidents occurring to land workers during the execution of any of the forms of employment mentioned. For this reason reference need not be made to such clauses inserted in the insurance policy for accidents in agriculture as bring it into line with the general principles that govern these insurance agreements in all legislations as regards liability, medical attendance and supply of medicines, risks, losses, compensation, etc.

## BIBLIOGRAPHY ON ECONOMIC AND SOCIAL QUESTIONS

DIE DEUTSCHE LANDWIRTSCHAFT UNTER VOLKS- UND WELTWIRTSCHAFTLICHEN GESICHTSPUNKTEN. — Dargestellt unter Verwertung und Ergänzung der Arbeiten des Ausschusses zur Untersuchung der Erzeugungs- und Absatzbedingungen der deutschen Wirtschaft in Gemeinschaft mit zahlreichen Fachgenossen von MAX SERING. 50. Sonderheft der Berichte über Landwirtschaft. Berlin, 1932. P. Parey.

[As shown by the title, the above volume originated in the work of the agricultural sub-committee of the *Enquete-Ausschuss* set up in 1926 to examine the conditions of production and sale in Germany. This sub-Committee published a number of reports of a basic nature on the situation of the various branches of German agriculture, and was then compelled in 1929 to suspend activities without having prepared a general report. The present work by SERING takes the place of such a general report, but the whole range of the problems is considerably widened, from the fact that the writer not merely summarises the investigations of the Enquiry Committee, but also brings then up to date.

The book is intended to present a picture of German agriculture of to-day, its methods of work, its success or want of success. The object is to state the natural conditions as well as the conditions of national and world economy under which German agriculture is being carried on, together with the essential consequences of these, so that a basis may be reached for the consideration of the economic, social and political problems that await solution.

Such a task could only have been compassed by an agricultural economist of the eminence of Max Sering. In its prosecution he was able to obtain assistance from the German Research Institute for agriculture and land settlement (*Deutsches Forschungsinstitut für Agrar und Siedlungswesen*) of which he is the president and also from a number of well-known German agricultural economists.

There is scarcely a single agricultural problem that does not receive treatment in this book. It is characterised throughout by a lucidity of plan and a concentration in form, the object being to give primary emphasis to the main permanent lines of development. Owing however to the great number of the questions treated the outcome is a volume of over 1000 pages. It will remain for long the basis for investigations and measures relating to German agriculture; in short the chief work of reference on the subject.

Chapter I deals with the supplies of agricultural and forestry products available for the German nation before and since the war. Chapter II surveys the situation of German agriculture, the course followed by farm receipts and expenditure, the shrinkage of the farmer's income as the result of high taxes and interest rates, the indebtedness of agriculture and the consequences. Chapter III gives a sketch of the changes in conditions of production and marketing since the conclusion of the war, and discusses the international price movements, the fluctuations in personal and in land mortgage credit, work and wages in agriculture, the rural exodus and the charges burdening agriculture before and since the war. Chapter IV examines the bases of German agriculture and the adaptation of farms to the changed economic conditions; it discusses also the geographical division of Germany into agricultural zones, taking into account the nature of German cultivable land, climate and utilisation of the soil, importance and distribution of the different size categories of farms, density of population, the farms in their relation to the markets; the change over since 1913 in agricultural production in the different parts of Germany. Chapter V contains investigations into the situation of the family farming class and the means of maintaining it in the regions with less favourable conditions. The effects of the agricultural crisis on this class, the tendency for it to become proletarian, the continuous overwork for both sexes and the possible remedies, are discussed. In Chapter VI the writer states his views on the development, situation and general outlook of the different branches of German agriculture; cereal growing and utilisation, including cultivation, milling, baking, marketing; stock farming, increase in stockbreeding output, the balanced ration etc., sales of livestock and meat, dairying, poultry keeping, etc.; root crops, market gardening, fruit-vine-hop-and tobacco-growing. Chapter VII is an investigation of the measures to be taken for the encouragement of German agriculture, including agricultural education and advisory work, co-operation, modification in the methods and in the organisation of the marketing of agricultural products, reform of agricultural credit and reduction of indebtedness, reform of the law

of succession for rural property, farm land settlement, reduction of public charges, plant protection, control of live stock epidemics etc. consolidation of parcels, land improvements, increase of crop yields by means of seed selection and fertilising, mechanisation of farm work, tariff measures and their effects. In the last chapter the author concludes, with a retrospect and a glance at the future, a remarkable work which in addition to the indications given of the principles and methods to be followed in the protection of German agriculture presents an admirable account of the world agricultural crisis and its effects on agriculture in Germany].

WOITINSKY, Wl. : *Internationale Hebung der Preise als Ausweg aus der Krise* (Veröffentlichung der Frankfurter Gesellschaft für Konjunkturforschung, herausgegeben von Dr Eugen Altschul, Neue Folge, Heft 1) Hans Buske Verlag, Leipzig, 1931 (VI- -163 pp)

[The *Frankfurter Gesellschaft für Konjunkturforschung* has already to its credit several interesting studies on various aspects of the problem of economic fluctuations and business forecasting. They include important original contributions to the statistical methodology of the subject, by Oskar Andersson, Simon Kuznetz, Hans Peter and others.

The book under review deals with a cardinal and highly controversial problem of the present economic situation, namely, with the means by which the world crisis could most effectively be overcome. The choice of the remedy naturally depends on the diagnosis of the complaint; and the analysis by the writer of the origins of the present depression presents considerable interest.

The writer thinks that "the belief, based on pre-war experience, that the economic situation would right itself, is not justified under present conditions", and that the solution of the crisis must be brought about by deliberate action. Accordingly, he insists that the study of market conditions — *Konjunkturdienst* — should aim not only at diagnosing the situation and forecasting its probable development, but also at evolving remedies for the treatment of the disease. In face of the crisis, he is all in favour of action. He refuses to accept *Konjunktur* as an elemental phenomenon which must be investigated but cannot be brought under control. In this he differs from the accepted view of the German and other students of the subject, the majority of whom adhere to what he describes the diagnostic or meteorological school of research.

The writer's reasoning hinges on his conception of the generation and nature of long waves in business fluctuations. This differs from the orthodox German doctrine, as represented by Wagemann, in that, while the latter considers long waves to be rhythmic, but does not admit of the possibility of finding their explanation, Mr Woitinsky says that, to him, "the most controversial and doubtful point of the problem of long waves is precisely their rhythmic character". "As far as their causation is concerned, one should seek for explanation, and there is no doubt that such explanation would eventually be found". He thinks, indeed, that in this direction much has already been achieved by recent research, including his own work on long business waves. His view is that the long waves are not necessarily rhythmic, they are rather the expression of certain trends of development, not necessarily recurrent. As to their causes, these should be looked for not in any mysterious agencies, but in the forces which determine the movement of prices, and more particularly in the monetary factors of price formation.

From an analysis of the frequency distribution of price series before and since the war, as well as in the course of 1930, the writer draws the conclusion that, before the war, the economic situation was dominated by forces which determined a strong sustained upward trend of prices, while now the dominant pressure is in the opposite direction. He thinks — and in this he finds ample support in the views of many authorities, including the Macmillan Commission and the Gold Committee of the League of Nations — that the "general factors" of the world economic crisis can be reduced to money and credit conditions; and since such in the origin of the trouble, a remedy for it must be sought in a well devised scheme of monetary policy. This remedy the writer sees in the creation, by the action of a specially established international financial organisation, built on principles similar to those of the Bank of International Settlements, of additional purchasing power, and in its equitable distribution among the different countries in the form of capital and credit.

The Editor of the Society's publications, in recommending the book to the public, as a valuable piece of research, dissociates himself from the author's "therapeutical" view of the aims of *Konjunkturforschung*, as well as from his prescription. As a study of the present crisis, the book is instructive and stimulating].



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(3) Between brackets [ ] are given translations and explanatory notes not appearing in the title of the review.

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# MONTHLY BULLETIN

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## AGRICULTURAL ECONOMICS AND SOCIOLOGY

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### FARM ECONOMICS

#### Recent Investigations on the Economy of Native Farming in Java.

*On the occasion of the meeting in November 1931 of the Commission for Agriculture in Tropical and Sub-tropical Countries which forms part of the International Scientific Agricultural Council, a discussion took place on the paper read by Professor MAUGINI on the methods to be followed for developing native agriculture in the Colonies. In the course of this discussion the inadequacy was noted of existing documentation on the economic conditions of native agricultural production, and with a view to ensuring the uniformity of studies relating to this question, a recommendation was made that there should be prepared by the Institute in collaboration with M. MAUGINI a questionnaire or an enquiry for sending to all the countries concerned.*

*The writer of this article who was present at the meeting regrets that he had no opportunity of informing the Delegates that enquiries of the types recommended by Professor MAUGINI have already been initiated and are in progress in one tropical country, namely, Java. An examination of the reports recently made in this connection by Dutch and Javanese agricultural engineers should accordingly be of considerable interest. The study of these published investigations reveals the very great difficulties encountered by these experts in dealing with economic questions in tropical countries. These difficulties are serious in Java, a country with an age-long tradition of native agriculture; they are immense in colonial areas where the transition from the "shifting" cultivation to more or less stable agriculture is being effected only within our own times.*

#### I. — PUBLIC SERVICES OF THE NETHERLANDS INDIES DEALING WITH NATIVE RURAL ECONOMY.

Any account of the work recently carried out by Dutch agricultural engineers should be prefaced by a brief summary of the organisation of the agricultural services in the Netherlands Indies.

The Department of Agriculture of the Netherlands Indies was founded in 1905. At first the Central Government only occasionally gave attention to native agriculture, and there was no organisation which was in touch with the requirements of the native peasant class. The establishment of services of agricultural information and instruction entirely depended on the decision of the Civil Service. The same was the case with experimental work which at that time had reference mainly to rice cultivation.

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(1) This article, prepared by Dr. BALLY, Chief of the Section of Tropical and Sub-tropical Agriculture, is intended for the next meeting of the Bureau of the Commission of the C. I. S. A. for Agriculture in Tropical and Sub-tropical Countries, fixed for May 1932. As the article is of an economic character, it is being published in this Review.



The institution of the Department of Agriculture was due to the foresight and initiative of Professor Melchior TREUB, Director of the Buitenzorg Botanical Gardens. This celebrated botanist convinced the Government of the necessity for establishing a technical Bureau the main function of which would be to enquire into the possible methods of increasing the yield of native cultivation.

The history of the Department cannot be detailed here; it is enough to say that its activities have shown a steadily progressive extension. At the present time, it includes eleven sections, namely: the Botanical Garden, the Agricultural Experiment Station, the Section "Agriculture", the Government Plantations, the Section of Sylviculture, the Veterinary Service, the Section for Industry, that for Trade, the Bureau of Weights and Measures, the Central Purchasing Service, and the Central Statistical Office.

A special corps of agricultural advisors, "*Landbouwadviseurs*", was formed in 1908, as it was felt that the relations with native agriculture and the inspection of demonstration fields should be entrusted to competent persons, that is to say, to qualified agricultural engineers. The institution of this corps was of fundamental importance; the service began on a small scale but was gradually extended. It was only in 1920 that the services dealing with native cultivation were grouped into the Section "Agriculture" (*Afdeeling Landbouw*). An idea of the size of this Section may be gained from the fact that in 1930 it included 298 persons, namely, one Chief of Service, 5 Inspectors of Native Agriculture, one Inspector of agricultural education of natives, one assistant inspector for Native Agriculture, 62 advisors in agriculture and horticulture (*Land en Tuinbouw consulent*), 135 natives acting either as instructors in agriculture or as assistant advisors, 12 officials for agriculture (*Landbouwkundig ambtenaar*), 13 officials for horticulture and 68 superintendents.

It is evident that a service specialised in this way is able to study economic questions in full detail. The archives contain abundant material to which additions are constantly made, but it is only in recent years that proper co-ordination of the data has been attempted together with a detailed analysis of the economy of the native farm holdings. In the following pages the methods of analysis employed will be discussed and examples will be given illustrating the plan of work (1).

## II. — PRINCIPLES OF INVESTIGATIONS AND METHODS EMPLOYED.

As already stated, attention has been given for some time past to the economy of native farming. Before the foundation of the Department of Agriculture, the officers of the Colonial Civil Service, who were fully acquainted with the needs and the psychology of the native population, gave much consideration to the question, and their reports contain much valuable material. Since 1908, the advisers on agriculture have made it their business to gain an understanding of and to effect analysis of native farming operations.

At first, each adviser applied in his own district his personal ideas. With a view to securing uniformity of method the Chief of the Section of Agriculture in 1921 addressed a circular to all the advisers, the object of which was to obtain in future more complete data, especially from the statistical standpoint. The following questions were included in the circular:

1. How many hours of work are required for the ploughing, harrowing,

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(1) For a fuller account of the history of the Service, the reader is referred to the article by B. A. P. AEREL<sup>4</sup>, included in the bibliographical list attached

transplanting, hoeing and harvesting on one "bouw" (1.71 hectares)? — It is desired to determine the hours of work for a certain crop in a given region, and it is advisable to make the observations in respects of a single farm holding.

2. What is the number of hours of work given by the members of the family, by the friends, and by paid coolie workers? Do the male workers work for a full day during the busy season? What is the practice in the case of women workers? Do these latter engage in other productive work, during the remainder of the day?

3. Is assistance paid for in cash, in food or in a share of the produce?

The Chief of Service, while leaving the advisers every freedom in the choice of the means they employ for obtaining the required facts, recommends that the examples shall be selected from among the model farms of the given region. He advises that continuous contact shall be maintained with the peasant farmer, without interference in or hindrance of his work.

In 1923, a paper was read by A. M. P. A. SCHELIEMA, Ing. agron., in which he discussed the theoretical bases, the importance of the economic analysis of farm, the forms of native labour and the application of the terms devised by the economists in Europe. In addition, reference was made to the difficulties that had occurred in the course of previous investigations as well as to those that might be expected to recur. An attempt was made at comparison of the figures obtained by economists in Europe, with special reference to Prof. LAUR's investigations in Switzerland, with those collected by KOENS at the Residency of Preanger. This was scarcely practicable but was regarded as likely to give some useful results. At this point the main conclusions of SCHELIEMA may be given, returning later on to the principles on which the work should be conducted. The following is the summary of the paper

I. In order to analyse native agriculture, it is first necessary to consider the stage of development of agriculture and of the community. Native agriculture in Netherlands Indies presents great contrasts on the one hand a very primitive cultivation on virgin land cleared of forest carried on by communities still in the stage of barter-economy, and on the other hand a capitalistic cultivation of commercial crops on a large scale with almost complete money economy.

II. The economic analysis of native farming is essential.

(a) for the farmer himself;  
(b) for the Agricultural Information Service;  
(c) for the solution of various general economic and agricultural questions; for example, the prospects of food production; assignment of fallow lands to be leased to the sugar estates; fixing of the amount of the land tax, or "landrente"; the possible industrialisation of Java.

It may be added that the agricultural engineers are never used as intermediaries for payment of taxes by the native farmers; it is justly considered that the native farmer would lose all confidence in these officers if any assessment for taxation of crops were included in their duties.

III. Wages in native agriculture are paid partly in money, partly in kind. The manner of payment depends on the amount of liquid capital at the disposal of the cultivator, and on the size of the holding.

IV. For the calculation of the net returns of native holdings it is sufficient, in the majority of cases, to take account of the net returns expressed in cash and of the farming costs. On the other hand, interest on capital, depreciation of buildings, live stock and implements, increase and diminution of capital, all factors that are of great importance in farming in temperate countries, may be disregarded. It

is also unnecessary to deduct wage claim for the personal labour of the cultivator and his family.

V. The data obtained by A. J. KOENS as regards rice cultivation in the Regencies of Preanger have shown that :

(a) The number of hours of work given to transplanting, cultivation of the crop and harvesting varies considerably from one farm to another : the difference is less as regards ploughing, harrowing and levelling.

(b) The work required for transplanting, weeding and harvesting is very heavy.

(c) As compared with European farming, where the largest gross returns and the highest net profits correspond to the highest production costs, on the Preanger rice farms it has been shown that the maximum production costs coincide with the lowest net profits and relatively small gross returns.

(d) The high net profits obtained by the Preanger rice farms in 1922 were due to high prices, and to a less extent to the abundant yields of rice.

(e) If the holdings are grouped according to costs of cultivation, the average costs of transplanting, weeding, etc. and harvesting, calculated per picul rice in straw, show relatively little variation.

(f) The costs of the different kinds of work, calculated per unit of area, vary considerably ; the spread is least in respect of the costs of ploughing and harrowing.

(g) The cultivation of rice is very intensive as regards labour as compared with rice growing in Italy or hoed crops in Holland ; on the other hand it is extensive as regards capital.

VI. Data obtained in the principality of Surakarta by F. BOOGERD have shown that in rice cultivation the return from labour has been very small on account of the low prices of the product.

From 1925 to 1930 a very large amount of work was accomplished by the agricultural advisers and there was a steady increase in the number of analyses made. The results of the enquiries were published in a new review, " Landbouw ", founded in 1925. As the reports appeared the need for a new general direction of the work began to be felt. This question was fully discussed by a meeting of the agricultural advisers in October 1930, which took as the basis of discussion the report of E. de VRIES, an agricultural adviser of great experience who has himself conducted a large number of enquiries. This report contains a discussion of some theoretical considerations, a bibliography of the published enquiries and instructions to be followed by those responsible for the direction of the enquiries.

De VRIES begins by pointing out that our knowledge of the economic bases of native farming is inadequate. The farms may be grouped according to various bases of classification, but it is not possible to make these distinctions until the results of the enquiries have been studied. To preface these enquiries by placing any farm in a fixed group on a *a priori* grounds is thus to commit a blunder.

The author has endeavoured to make use of the terminology of Professor LAUR, which was accepted in 1929 by the International Congress of Agriculture at Bucarest. In his article he reproduces the definitions given in the *Monthly Bulletin of Agricultural Economics and Sociology* of the International Review of Agriculture of September 1929. In the course of the discussion that followed the reading of de VRIES' paper, a number of objections were raised. The terminology was pronounced to be much too complicated for native farms, and as it is largely of a commercial character, it is not well suited to primitive types of farming where the object is not commercial but merely that of providing subsistence for the farmer and his family. In the end, however, for want of a better, one is driven to employ

this terminology which is designed for the use of European and American farmers.

The distinctions between the different kinds of farms are difficult and sometimes impossible to establish, as the transitions are very gradual between one group and the next. This is the natural result of the development that has taken place during the last few years. The economic life of Java, which remained stationary for centuries, is increasingly influenced by the new means of communication and by the rapid growth of the population, as shown by the following figures :

*Native Population of Java and Madura (1).*

In 1850. . . . .	9,500,000 inhabitants
In 1875. . . . .	18,000,000        "
In 1900. . . . .	28,400,000       "
In 1920. . . . .	34,400,000       "
In 1930. . . . .	40,500,000       "

The above two factors must clearly have a profound effect on the general economy and in consequence on the types of farming.

In the following attempt to establish distinctions, it should be borne in mind that a large number of intermediary forms are to be found between one and another group.

*A.* — In the first place the farm may be grouped according to area : dwarf, small, medium-sized and large farms may be distinguished. All these types fall under the category of farms comparable with those of the family farmer of Europe. Other large scale plantations the object of which is to obtain returns on invested capital belong to an entirely different class, and are for the most part limited companies under the management of Europeans. These estates do not come within the scope of this article.

*B.* — Other classifications may be obtained by comparing

(a) farming with a view to exchange of products for cash (in Dutch *Geldbedrijf*, shown in the diagram by the letters *e a*), with farming with a view to barter of products (Dutch *Goederenbedrijf*, letters *e n*) ;

(b) farms worked for the market (*Marktbedrijf*, letters *e m*) with farms worked for family consumption (*Consumptiebedrijf*, letters *e c*) ;

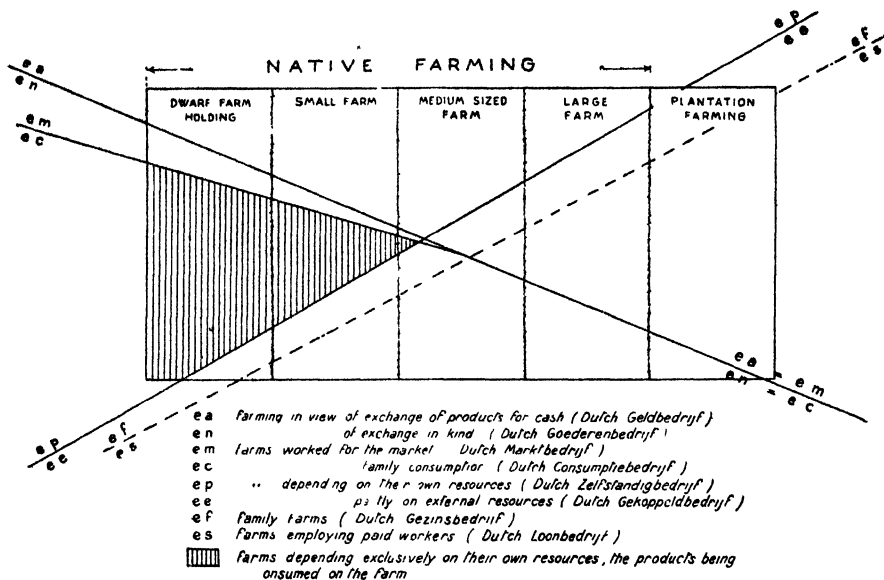
(c) farms depending on their own resources (*Zelfstandig bedrijf*, letters *e t*) with farms depending partly on external resources (*Gekoppeld bedrijf*, letters *e e*) ;

(d) family farms (*Gezinsbedrijf*, letters *e f*) with farms employing paid workers (*Loonbedrijf*, letters *e s*).

The different groups referred to under *A* need not correspond to those designated under letter *B*. At the same time certain correlations may be found between the two classes. The percentage of farms *e a* is small among the very small or dwarf farm holdings ; it increases as the area increases. The greater number of the dwarf farm holdings are family farms, while in the group of large farms the majority employ paid workers. A very clear diagram is provided by the author making it possible to see at a glance the different relations existing between the groups. This is reproduced here on account of its general interest.

(1) Figures taken from the article of M. van der VEER.

The writer then gives a plan of campaign for future researches which should be based on complete analyses of farming. The work of making such analyses, however, is impeded from the outset by insurmountable difficulties due to the prevailing illiteracy of the peasant farmers, who accordingly cannot be expected to



keep accounts. In consequence the enquiry must be confined to a certain number only of the relevant questions, *e. g.* the number of hours of work devoted to a certain field may be ascertained and the farm expenses deduced therefrom a simple matter when it is a question of paid day labour, but difficult when the work is done by the members of the family; the farm inventory may be drawn up, particulars may be collected as to rotation of crops, etc.

The inventory consists in a list of the members of the family, of persons boarded in exchange for their work, the livestock, fields owned or leased by the farmer. Each field is given a number, and for each there is noted the field work done, the rotation and, if possible, the quantity of the crops.

The number of the hours of work may be checked in two ways by engaging a literate native to supervise some twenty fields belonging to different owners and to note the work accomplished, or by making a complete analysis of the farm of a single peasant farmer; in this latter case, a native assistant may analyse five or six farm holdings.

Further detail of this interesting form of enquiry must be omitted for considerations of space. It may be simply stated that the author attaches great importance to the analysis of the work done in the houses and on the family plots surrounding the houses, usually planted with coconuts and other fruit trees and vegetables. No analyses have as yet been made in this respect.

### III. — EXAMPLE OF A FARM ANALYSIS.

In order to give an idea of the kind of investigations of which the theoretical bases have just been given, a careful study must be made of the analyses effected in recent years. Some ten groups of farms situated in different regions have been

analysed. This number is too small for it to be possible to draw general conclusions. A single example will be enough to give some idea of the method followed.

In order better to understand what follows, a brief account will first be given of the different crops found on the native farms of Java.

Rice stands first, and there are two kinds of rice fields: irrigable and dry. Cultivation of the irrigated fields is possible only during the months when the atmospheric precipitations allow of adequate irrigation. In the greater part of Java two very marked seasons may be distinguished, one dry, corresponding to the easterly monsoon from May to October, the other rainy, corresponding to the westerly monsoon, from November to April. On the other hand, the period between the rice transplanting and the harvest is scarcely three months. Accordingly the period of the rice harvest is very short, about three months only. There are however exceptions to this; for example, in the Regencies of Preanger there may be seen the whole year round ricefields newly planted and others in which the harvest is in progress.

For several reasons, rice cultivation required much labour. The preparation of the seedlings beds, the laying out of the channels, the making of the embankments for keeping the water on the field, the ploughing and harrowing, all require a great number of day labourers. Afterwards as the transplanting must be done very quickly, all the available labour is employed, men, women and children; the rice is planted in small bundles of three or four plants.

When this part of the work is over, there follows a period of three months during which the crop does not fully occupy the time of the available labour, so that other means of subsistence must be found. Then comes the harvest and the whole population is once again brought into action. Rice is not cut with a sickle, but the stalks are cut separately at about 30 cm. from the ear. The reapers make use of the "ani ani", a small wooden board with a very sharp steel blade on one side partly embedded in the thickness of the wood. Like many of the other methods employed in rice growing which to us seem uneconomic, this way of harvesting is dictated by the religious traditions of the country. It may be remembered that the Javanese regard rice cultivation as a religious act.

The varieties grown are extremely numerous. There are early varieties and others that ripen late. According to the variety, the ripening period may last from 70 to 140 days. The late kinds yield rice of a better quality, while if water is scarce and irrigation cannot be prolonged the advantage is on the side of the early kinds. The uninstructed peasant has a thorough knowledge of the different varieties that may be found in the region where he lives and where his forefathers have lived. As a rule he does not attempt to modify the environmental conditions in order to obtain a better crop; when these are unfavourable, when for example the soil is poor, he can find a variety adapted to this poverty.

The cultivation of other food plants, which is effected during the dry season on the fields on which the rice had been planted or on the "tegalan" (non-irrigated fields), is almost equally important. The list of these plants is long, the generic name given by the Javanese is "Polowidjo", while the Dutch call them "Tweede gewassen". The first to be mentioned is maize, a very important crop in the eastern part of Java, where the daily dietary of the natives largely consists of the products of this plant. In many regions, manioc or cassava is also of importance, and grows on the non-irrigated fields, while groundnuts, also important, are cultivated on the water fields. Mention may be also made of sweet potatoes or yams, soybean (which does not do really well in Java), many kinds of beans, cucumbers and onions, capsicums, sesamum, castor-oil plant, colocasia, potatoes and European

vegetables grown in the mountainous regions, and the list is by no means complete.

Some part of these crops is used for the food of the farm family ; and part enters into trade. The value of the exported products of native cultivation in Java has been in the last few years as follows :

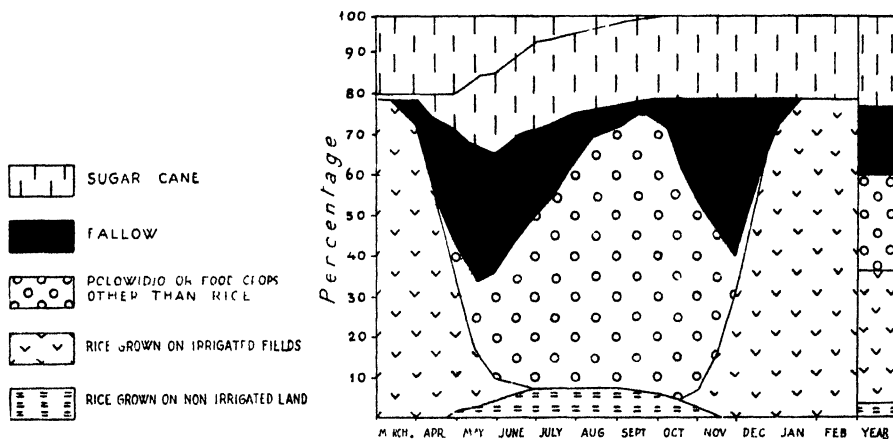
in 1927 . . . . .	80,936,000	millions of florins
in 1928 . . . . .	135,026,000	» » »
in 1929 . . . . .	104,530,000	» » »
in 1930 . . . . .	70,073,000	» » »

In addition to maize, groundnuts, manioc and castor-oil, the exports include coconut products, kapok, areca nuts, sugar, tobacco, tea.

Tobacco and sugar cane are planted on the irrigated lands, but trees or bushes, such as the coconut, kapok and areca grow on the family plots surrounding the native dwellings. There also are found the numerous fruit trees of various kinds. The area covered by the villages is very wide, and owing to the surrounding trees and bamboo plants the whole village has the appearance of a little wood.

Three sources of income may be distinguished the irrigated fields, the non-irrigated fields and the family plots. The importance of these last, although far from negligible, is not yet fully determined, but especially in the neighbourhood of towns, fruit growing and the resulting trade form an increasing source of income.

DIAGRAM SHOWING PERCENTAGE OF FIELDS  
UNDER THE DIFFERENT CROPS



The great complexity of the rotation of crops in Java will be seen from the accompanying diagram which is taken from an article by de VRIES on the agriculture and general welfare of the region of Pasuruan. This diagram relates to a region which is irrigated regularly during the rainy season. The months are shown along the abscissa of the graph; the percentage of fields used for a single crop or still in fallow appears on the ordinate. It may be added that in this region, a certain percentage of fields corresponding to the area under sugar shown in the diagram are regularly leased to European sugar estates.

It follows from what has been said that there may be found in the different regions of Java the most varied combinations of crops. Rice cultivation is found everywhere. It may be combined with different kinds of 'Polowidjo' (food-crops) or with industrial crops, tobacco, sugar cane, tea, indigo and others. The analyses published up to the present have been prepared in different regions where a great variety of crop combinations were found. The following list shows this clearly.

Author	Publication in which article appeared	Crop
SMITS	<i>Indibouw</i> 1 p. 255	Rice
OCHSE	<i>Indibouw</i> p. 923 4 p. 501	Fruits
SCHLITTEMA	<i>Medel. Ind. Indibouw</i> No. 6	Rice
VROON	<i>Indibouw</i> 1 p. 511	Tea
SMITS	<i>Indibouw</i> p. 1-6	Polowidjo
SMITS	<i>Indibouw</i> 3 p. 39	Rice (Cekbes)
BRECKMAN	<i>Indibouw</i> 4 p. 708	Citrus fruit, rice and Polowidjo
WAFERS	<i>Indibouw</i> 4 p. 1	Polowidjo
SMITS	<i>Indibouw</i> 4 p. 37	Tobacco
DI VRIES, ALERS et SCHIJS	<i>Indibouw</i> 5 p. 645	Pepper
WILMOALMOEDJOJO, VAN GOCH and de VRIES	<i>Indibouw</i> 6 p. 77	Tobacco and rice
KOENIG, DJOJODIHARDJO, PADMO, DIHARDJO	<i>Indibouw</i> 6 p. 6-4	'Polowidjo' and sugar
INDEN, GOENONG ISKANDAR and WIT	<i>Indibouw</i> 6 p. 7-9	Sugar
VINK, POERIJAJA, GADPOLN and RADEN	<i>Indibouw</i> 6 p. 7-9	Rice, sugar and 'Polowidjo'
GOENONG ISKANDAR	<i>Indibouw</i> p. 108	Rice, Polowidjo and tobacco
VINK et DI VRIES	<i>Indibouw</i> p. 108	Rice, indigo and Polowidjo
VINK, DJOJODIHARDJO and RADEN GOENONG ISKANDAR	<i>Indibouw</i> p. 108	Rice
VINK, DJOJODIHARDJO and VAN DER BRAND	<i>Indibouw</i> p. 108	Rice

Space does not permit of giving summaries of all these articles in spite of their great interest. By selecting one out of the number that of VINK, DJOJODIHARDJO and RADEN GOENONG ISKANDAR, an idea may be gained of the methods followed. It relates to a village where the kind of rotation in use is typical and may be taken as normal.

The fields analysed, those of the village of Djetis, are situated in a region with a loamy soil. When dry, this soil is as hard as a stone and cracks freely. On the other hand, if there is a quantity of water, ploughing becomes impossible as the work animals sink too deep in the mud. The system of cultivation to be followed is thus dictated by the degree of moisture of the soil.

The analyses cover two rainy seasons of rice cultivation (1926-27 and 1927-28) and two dry seasons of polowidjo cropping (1927 and 1928). An idea of the considerable differences in humidity will be gained from the following table which shows the rainfall in millimetres over three years.

TABLE I — *Rainfall in millimetres*

Year	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	Total
	Month												
1926	570	663	579	208	124	—	—	—	—	—	121	419	
1927	411	460	342	240	91	39	1	38	—	73	64	133	
1928	302	333	259	161	167	182	42	4	3	2	139	284	
Average of several years	358	369	314	168	113	58	47	10	26	62	132	307	1,964



The fields are not the property of individuals but of the commune, and these common lands are divided each year, when the rains begin, in separate allotments among those persons in the village who are entitled to land. Hence the distribution of fields in 1927 was quite different from that obtaining in 1928. The total area of the lands analysed was also different in the two years. In 1927, the analysis covered 19.5 hectares, in 1928 an area of 22.7 hectares. The number of lots formed was twenty, and the size of the fields cultivated by an owner varied from 0.15 to 2.1 hectares. During the rainy season, those entitled to land cultivate their fields themselves; during the dry season, many seek another occupation and leave their fields, without asking for any compensating payment, to other cultivators, who grow "polowidjo" on them.

The data relating to the rice fields and those relating to the same areas when under "polowidjo" will be given separately; in conclusion, a graph will be reproduced which will show the total work accomplished.

### A. Ricefields.

*Preparation of fields.* This usually consists in ploughing and harrowing; the hoe is employed only to break the clods. In exceptional cases, ploughing and harrowing is replaced by hoeing. As a rule, the fields are ploughed over once and then, if enough water is available, they are flooded for a certain time. In this case hoeing is unnecessary and the subsequent harrowing requires little effort.

If the quantity of water available is not sufficient, the clods are broken by the hoe after ploughing. In this case repeated harrowings are necessary. When the ploughing is followed by a period of drought the other cultivation works must be postponed. After fresh rainfall the ploughing must be repeated followed by hoeing and harrowing.

Generally, the work of preparing the land must be repeated more than once, as in the majority of cases the quantity of water available for irrigation does not allow of ploughing and harrowing all the fields at one time. In addition it is essential to have ready, for the moment that the fields are ready for the transplanting work, a sufficient number of plants at the right stage of growth for transplanting. Very often the nurseries of a single owner cannot supply all the planting material necessary, and the cultivator must apply to other cultivators, and buy the plants he needs. For this he must have capital available at the right moment. Those engaged in this investigation noted that it is a great advantage to be able to purchase plants, as it is not desirable that the completion of the work of preparation of the soil should depend upon the state of the nurseries. If there is a certainty of obtaining plants at the right time, such work may be regulated in accordance with the degree of moisture of the soil, a factor depending on the rainfall, which varies in the different years.

*Varieties of rice grown.* — There is a large number of these varieties. Out of the 20 fields analysed, eight different varieties were planted; this is a good illustration of the way in which the Javanese understand how to make best use of the numerous varieties available. The rule is that each field is planted only with one variety, and mixture of kinds is avoided.

*Production.* — The crop of 1926-27 was more abundant than that of 1927-28, the low yield of 1927-28 is explained by the shortage of water at the period of transplantation. The following table shows the great diversity of yields between one parcel and another.

TABLE 2      *Yield in quintals per hectare*

Seasons		Average	Maximum	Minimum
1927	1928	43.6	70.5	20.1
1928	1929	20.3	36.5	9

During the season 1927-28 in which the rainfall was insufficient it became evident that one of the two varieties (Dadoe) which were cultivated that season was able to withstand drought better than the other (Tjempo Sijem), as is shown by the following table

TABLE 3 -- *Yields of the two varieties of rice Tjempo Sijem and Dadoe in quintals per hectare*

Variety	Number of field observed	Average	Maximum	Minimum
Tjempo Sijem	10	41*	31.5	17.5
Dadoe	8	1*	36.5	20.8

This figure includes the field in which the harvest was a complete failure

*Hours of work* — The results of careful observations extending over a period of two years are shown in the following table

TABLE 4      *Number of working hours per hectare devoted to the cultivation of rice*

Season	1927				1928			
	Men	Women	Children	Work Animals	Men	Women	Children	Work Animals
1. Sowing	—	—	—	—	—	—	—	—
2. Ploughing	—	—	—	—	—	—	—	—
3. Harrowing	—	—	—	—	—	—	—	—
4. Sowing	1	—	—	—	42	—	—	—
5. Yields	—	—	—	—	—	—	—	—
6. Ploughing	—	—	—	—	—	—	—	—
7. Harrowing	—	—	—	—	—	—	—	—
8. Transplantation	7	261	—	—	—	—	—	—
9. Harvesting	109	461	70	—	112	512	26	—
10. Other work (hoeing, weeding, etc.)	319	80	1	—	114	157	17	—
Total	508	810	89	133	568	921	107	125

The number of working hours is considerable the greatest amount of labour being devoted to transplantation and harvesting. As already stated, however the methods employed in these processes follow the old traditions and seem far from practical to the modern European.

*Financial results* — Excellent in 1926-27 but less satisfactory in 1927-28. The following table shows the net returns per hectare

TABLE 5 — *Returns per Hectare*

Returns in florins	to 40	41 to 60	61 to 80	81 to 100	101 to 120	121 to 140	141 to 160	160	Average
Number of farms which obtained returns shown in above columns									
1920 7	—	—	2	3	2	3	5	5	134 florins
1927 8	2	3	4	7	2	1	—	—	57 florins
Total number of farms									
1926 27 20									
1927 28 19									

It is much to be regretted that the writers have not described the method by which they calculated the returns. Further information may be obtained from the other publications referred to above but this particular article gives no precise indication as to the profits which may be obtained by natives from rice cultivation.

#### B. *Pelouado*

The food plants included under this name are cultivated in rotation with rice during the dry season.

*Preparation of the land* — If the soil is not too damp after the rice harvest, the straw is cut and spread out to be burnt later. It is sometimes taken to the village instead.

As soon as the soil begins to crack about a week after the cutting of the straw the work of preparation of the land begins. Cultivators possessing work animals plough with the 'budjul,' a kind of plough which merely scratches the soil. Otherwise the 'patjol,' a kind of hoe is employed.

Two ploughings are made, the second at right angles to the first. The furrows are traced by still a third ploughing.

After these operations, small holes are made in the ground with a setting stick. If the soil proves to be too hard already, the hoe has to be used to scoop out pits in the earth and then small holes for the seeds are made within these by means of the setting stick. Sometimes when the ground is exceptionally hard recourse is had to the marling spike.

The seeds are at once placed in the holes, which are filled with sand or ashes and village refuse.

*Food plants grown* — The number of different kinds grown is considerable. The investigators mention maize, sorghum, known as 'tjantol' or 'djagong padi' (*Andropogon sorghum* Brot), soybean a kind of bean known as "katjang toongah" (*Vigna sinensis* Endl.), also different gourds such as the "semongko" (*Citrullus vulgaris* Schid), two kinds of *Cucumis Melo* Linn, the loofah (*Luffa cylindrica* Roehm), the 'Waluk kolek' (*Cucurbita moschata* Duch), the 'Waluk djangar' (*Lagenaria leucanthi* Rusbg), plants which are admirably adapted to drought. A large area is covered with maize.

*Production* — Figures are only available as regards the maize crop of 1928. The harvest was a good one, the average yield being 33 quintals per hectare with a maximum of 51 quintals and a minimum of 14.5 quintals.

The first crop to be harvested is that of the 'krai', one of the two kinds of *Cucumis Melo*, which is gathered at the beginning of August. Later in the same

month *Citrullus vulgaris* is gathered. By the end of September these crops are harvested. Then the maize harvest begins and goes on till halfway through October.

**Financial results** — These have not been established for 'Polowidjo' crops.

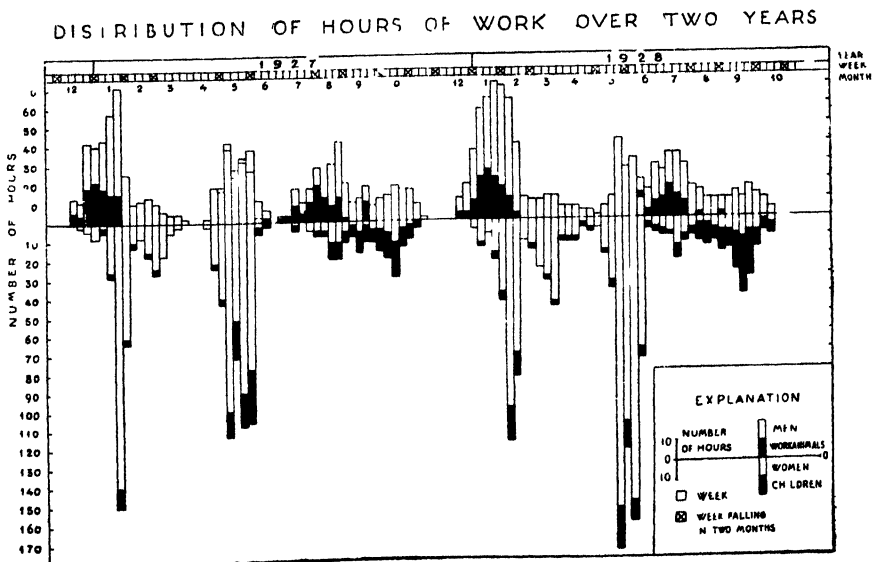
**Hours of work** — The following table gives a complete idea of the result of the enquiry.

TABLE VI *Number of hours of work*

Kind of work	Dry Season 1927				Dry Season 1928			
	Men	Women	Children	Work minutes	Men	Women	Children	Work minutes
Mowing, drying and de- struction of rice straw	57	1	11	—	82	7	8	—
Floughing	—	—	—	82	—	—	—	87
Preparation of the pits for sowing	34	3	2	—	19	7	1	—
Sowing	23	29	14	—	28	34	14	—
Manuring	22	3	1	—	10	—	10	—
Intercult. repair of chin locks, hoeing, weeding	25	8	1	—	28	10	2	—
Supervision	62	12	66	—	101	29	132	—
Harvesting	42	20	26	—	41	31	18	—
Total	270	76	136	82	309	118	185	87

### C) *Total amount of work accomplished*

The investigators show by means of a very instructive graph reproduced here the total of the hours of work per hectare and their distribution.



It is clear that there are three periods of intensive labour : 1. from December to February, the work for preparing the rice fields, sowing and transplanting of the rice ; 2. from April to May, the period of the rice harvest ; 3. from June to October, planting and harvesting of the "polowidjo" crops, the different operations following closely on each other without any break.

In addition it will be seen that the work animals are employed only during certain weeks, for ploughing and harrowing of the rice-fields and the land under "polowidjo", *viz.*, during December to February and June to August.

For three or four months in all farming work is suspended. Two rest periods may be distinguished. one in November and December and the other in March and April.

#### IV. CONCLUSIONS.

The above summary of the investigation made by MM. VINK, DJONJOHARDJO and ISKANDAR illustrates the procedure followed in this particular analysis, but general conclusions cannot be drawn. If one of the other investigations mentioned had been studied, it would have been observed that the results of the enquiries differ considerably. For example, the figures differ according as to whether they relate to combinations of food crops or of industrial crops. It will be enough to mention the published analysis of de VRIES, ALJERS, and SOEPARJO WIMOTO ARMONJO, in which it appears that the net return from one hectare of tobacco may be as much as 495 florins, while the same field in rice will give a return of only 70 florins. These figures make obvious the considerable effect on the economic life of a village due to the introduction of an industrial crop.

Although Java is among those tropical countries in which the study of rural native economy has been pursued with peculiar thoroughness, all that has been done up to the present serves merely to open the way to further investigation.

Fundamentally, the economy of Asiatic populations remains an enigma for Europeans. It may seem desirable to introduce farm machines to effect saving of the hours of human toil, but it is doubtful whether such a measure would be acceptable to the people themselves. In the course of the discussion which followed the paper read by de VRIES in December 1930, the following anecdote, taken from an article by F. OTTE, illustrating the mentality of these peoples, was quoted by SCHIELTEMA. OTTE was looking on while an old man was splitting wood with a primitive type of knife ; after watching him for an hour, he asked a Chinese friend : " Why does he not use a hatchet ? His friend, an intelligent Cantonese, replied in fluent English : " He would work too fast and would have nothing to do thereafter." On another occasion, OTTE asked the same friend why the native farmer did not use a windmill to pump water on to his ricefields. The reply was : " His son can do it with a treadmill. Why should he buy a machine and feed his son into the bargain ? "

It is undoubtedly essential to take into account a mentality so different from the European, partly arising from the over population of certain countries, such as India, Java and China. It is one of the factors that render difficult and even at times quite impossible the comparison of European and American farms or farm holdings with those of the Asiatic countries.

Once this fundamental difference has been fully grasped, it is seen that the problems assume a totally different form in Asia and Europe, and every care must be taken not to draw premature conclusions.

Another question arises — can the methods practised in Java be applied in

Africa? It will be remembered that the last meeting of the Bureau of the Commission for Agriculture in Tropical and Subtropical Countries of the International Scientific Council dealt exclusively with the rural economy of the African peoples. In our opinion no comparison is possible. The economic problems are entirely different for people with shifting agricultural practices and those carrying on established types of cultivation. In consequence the forms of enquiry used in Java would not elicit the exact information required as to the economic conditions of the African natives. From what has been shown above, it may be seen that even in Java the economic conditions are so diverse that it is not easy to prepare questionnaires suitable for all and each. It is clearly impracticable to draw up a schedule of questions adapted to the varying conditions of tropical agriculture as practised by different races of mankind.

W. BALY.

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## INSURANCE

### Hail Insurance in Poland. \*

The nine national institutions undertaking hail insurance in Poland under State control were in 1930 as shown below

#### A. Limited liability companies

1. *Towarzystwo Ubezpieczeń "Orzeł w Warszawie"*, at Warsaw with a share capital of 1,200,000 zlotys ;
2. *Towarzystwo Ubezpieczeń "Pół"*, at Warsaw with a capital of one million zlotys ;
3. *Warszawskie Towarzystwo Ubezpieczeń*, at Warsaw with a capital of three million zlotys .

#### B. Mutual insurance societies

\* The above note is mainly based on the data and material communicated by the Minister of Agriculture for Poland and by the General Institute of Mutual Insurance at Warsaw in reply to a questionnaire addressed them by the Bureau of Economic and Social Studies of the Institute

1. *Krakowskie Towarzystwo Wzajemnych Ubezpieczeń* at Cracow with a reserve fund of 32,849 zlotys ;

2. *Towarzystwo Wzajemnych Ubezpieczeń "Snop"* at Warsaw with a reserve fund of 110,294 zlotys ;

3. *Towarzystwo Wzajemnych Ubezpieczeń od Ognia i Gradobicia "Vesta"* at Poznań with a reserve fund of 937,401 zlotys.

C. *Semi-official societies :*

1. *Krajowe Ubezpieczenie Ognioro w Poznaniu* at Poznań with a reserve fund of 622,214 zlotys ;

2. *Powszechny Zakład Ubezpieczeń Wzajemnych* at Warsaw with a reserve fund of 12,190 zlotys and a borrowed capital of 600,000 zlotys ;

3. *Pomorskie Stowarzyszenie Ubezpieczeń* at Toruń with a reserve fund of 175,547 zlotys.

While the capital of the limited liability companies enumerated above is available for all the branches of insurance with which these companies deal, the reserve funds belonging to the other societies are available for the hail insurance section only of the respective societies.

Hardly any of the above societies were in existence before the war.

The Warsaw society "*Ceres*" for mutual insurance against hail (*Towarzystwo Wzajemnego Ubezpieczenia od Gradobicia "Ceres"*) which was in existence before the war and engaged only in hail insurance was seriously affected by the crisis following on the war and the monetary inflation and was consequently obliged to amalgamate in 1923 with the Warsaw mutual insurance society "*Snop*" (*Towarzystwo Ubezpieczeń Wzajemnych "Snop"*).

The nine societies shown above with activities including hail insurance have formed an Association of Insurance Companies (*Zrzeszenie Towarzystw Ubezpieczeń*). The objects of this Association are as follows : 1. the unification of premium rates and additional charges for all members of the association ; 2. the unification of brokerage charges ; 3. the preparation of joint statistics ; 4. regularisation of the collection of premiums ; 5. unification of the conditions of hail insurance ; 6. unification of the methods of estimating losses from hail.

The practical results obtained by co-operation within the limits of the Association are of great importance and in full accordance with the objects and development of this type of insurance.

The work effected has been as follows : (a) general model conditions of hail insurance have been laid down and appear likely to be accepted in the near future by all insurance companies ; (b) collaboration has been established with the Meteorological Institute and the results embodied in an important publication towards the appearance of which grants have been made by two semi-official insurance societies ; (c) the method of fixing the scale of compulsory premiums has been systematised for all the companies which form part of the Association ; by this means a fair calculation of the premiums is ensured and the application of lower rates — within reasonable and prudent limits — is rendered possible ; (d) taking into account the serious bar to the development of hail insurance resulting from the fact that the high percentage of losses necessitates as a rule the application of high premium rates, the Association has instituted a Committee for the settlement of claims for hail damage, consisting of the heads of the corresponding departments in all the associated companies.

The work of this Committee included : (a) the raising of the level of training of the experts making surveys of losses from hail ; (b) unification of scientific methods of assessment of losses ; (c) establishment of technical rules for a uniform



assessment of losses from hail with their publication in handbooks; (d) the practical application of results obtained by means of investigational work; (e) examination and if necessary revision of the reports of the hail experts.

The Committee bases its enquiries especially on mechanical damage done to crops and on an estimation of the normal yield which would have been expected. The investigations have been pursued for the last three years, at the suggestion of the Association, by the University of Cracow and by the agricultural station at Koscielce.

The results thus obtained have been very important in respect to precision in the assessment of losses and uniformity in the methods adopted by private insurance societies.

Polish legislation on the insurance contract is still far from being unified. In the territories formerly under Russian domination there were no special laws relating to the insurance contract. The Minister of Internal Affairs had the power to approve agreements of the kind and also to enact regulations on the subject. In the territories formerly under German and Austrian rule, the original laws had remained in force.

Provisional legislative measures have been enacted by a Decree of the President of the Republic dated 24 February 1928 relating to insurance contracts. A law on the subject has been under consideration for several years, but it appears that the definitive drafting of such a law is postponed.

Inspection or supervision of insurance societies was instituted in Poland on 26 January 1928 by a Decree of the President of the Republic. This law is divided into six parts and contains 135 articles. The first part deals with private insurance societies (limited companies, national co-operative associations and foreign companies); the second deals with semi-official societies, the third with the authorities responsible for the supervisory work; the fourth with penalties, the fifth and sixth with temporary provisions.

Federal supervision of insurance companies is exercised by State institutions, and particularly by the State Bureau for Control of Insurances. A yearbook containing data of a general nature and statements regarding the financial position of all insurance companies in Poland, is published annually, partly in French by this Bureau.

In connection with this supervisory body there is an Insurance Council composed of 12 members and having advisory powers. The expenses of supervision are covered by a levy made on the insurance companies.

On 31 January 1929 a decree was issued by the Ministries of Finance, of the Interior and of Agriculture by which insurance was made compulsory for the following categories: (a) insurance against fire of agricultural chattel property such as grain, fodder, etc., of the farm livestock and, finally, of farm implements, etc.; (b) livestock insurance; (c) hail-insurance. By this decree the independent administrations of districts (*Kreis Dietinen*) are empowered to establish within their respective territories compulsory fire insurance for agricultural chattel property and compulsory livestock insurance, while the same right has been conferred as regards hail insurance on the independent administrations of voivodies within the limits of their respective territories. These compulsory insurances are to be effected with the General Mutual Insurance Society (*Powszechny Zakład Ubezpieczeń Wzajemnych*) for the territory over which its activities extend, while as regards other districts insurances will be effected either by the existing semi-official institutions or by others established for this purpose.

Fire insurance for agricultural chattel property was gradually established and in

1929 it existed in 27 territorial districts. In these districts insurances are effected through the General Society mentioned.

Up to 1929 the other classes of compulsory insurance (livestock and hail) had not been introduced into any part of Poland.

Two organisations deal with the question of hail from the meteorological standpoint, namely the Central Meteorological Institute of Poland and the Association of Insurance Companies which effect hail insurance in Poland.

The Central Meteorological Institute until last year had no system for issue of scientific publications but has now established for the purpose a yearly publication which contains in its first issue an article by M. Guminski on hail during 1930 in Poland. This article is of great interest and consists of three chapters dealing with (a) hail, causes and attempts to control, (b) observations on hail in Poland; (c) notes on the observations made in 1930. Tables follow showing (a) the localities where hail was noted during 1930; (b) the occurrence of hail in the separate months of 1930; (c) statistics in regard to fall of hail arranged by voivodies; (d) extent of the damage caused by hail during 1930; (e) totals of sums assured and of compensation payments in respect of hail during 1930. This last table is arranged according to the districts. The work is completed by 24 graphs corresponding to the tables indicated.

The quotation that follows from this article is of interest as illustrating the activities of the Meteorological Institute in respect of the question of hail.

Up to 1920 hail observations were chiefly made in Poland by the system of meteorological stations in existence, but since 1924 data on hail have also been collected by farmers in correspondence with the State Central Statistical Bureau. The meteorological stations report on hail either in the monthly statements along with other meteorological observations or separately on special sheets. The farmers in correspondence with the Bureau note the occurrence of hail on the questionnaires by which agricultural statistics are collected. All the material collected at the Meteorological Institute since 1920 has been checked as far as possible and classified according to voivodies and districts. Monthly charts were prepared, moreover, showing the distribution of hail over the surface of Poland, the entire series being afterwards published by Prof. A. B. Dobrowolski under the title of "Information regarding hail in Poland (1926-27-28)".

With the collaboration of the insurance societies operating in Poland, the Meteorological Institute has developed a very satisfactory system of hail observations. In 1930 observers and correspondents supplied material to the Meteorological Institute in the form of replies to a questionnaire under the following 14 heads:

1. Date of the hail-storm.
2. Hour of the hail-storm.
3. Duration of the hail-storm (did the hail fall intermittently)?
4. Information as to the approximate size of the hail-stones (vetch seed, pea, hazel-nut, walnut, pigeon's egg, etc.).
5. Shape of the hail-stones (e. g., round, oblong, etc.).
6. Structure of the nucleus of the hail-stone.
7. Did the hail fall thickly or was it thinly scattered only?
8. On which quarter of the horizon did the hail clouds appear?
9. Which direction did the clouds take after the fall of the hail?
10. Was the hail accompanied by a storm?
11. Direction and force of the wind which accompanied the hail (Beaufort scale).
12. Length of the region affected by the hail.
13. Breadth of the region affected by the hail.
14. Losses caused by the hail (in percentage of the harvest).

- (a) cereals ,
- (b) root crops
- (c) orchards

Some 8,300 observation posts were arranged for in connection with the above questionnaire

During 1930 more than 2,000 schedules were filled in and returned to the Meteorological Institute

The Report above referred to observes that the material collected is not of uniform quality, that some points are overlooked, that a certain class of correspondents show a tendency to exaggerate the importance of the losses caused by hail. It adds, however, that the observations, taken as a whole, are adequate for the practical purposes of such statistics

The material supplied by the Association of Insurance Companies relates only to the areas where hail insurance has been introduced. It is mainly on the basis of these statistics that a systematic rating in accordance with districts has been established

The following table is taken from the Year Book of the State Office of Inspection of insurances and shows the premiums paid and the claims dealt with during 1929 by the societies coming under the inspection of this Office

	Premiums	Claims paid
	on direct insurances (in zlotys)	
<i>Limited Companies</i>		
Orzel	130 345	387 196
Port	270 750	251 983
Warszawskie Towarzystwo Ubezpieczeń	1 386 009	2 296 342
<i>Mutual Insurance societies</i>		
Krakowskie Towarzystwo Wzajemnych Ubezpieczeń	1 280 014	1 287 333
"Sноп"	5 196 057	3 100 290
Vesta	3 322 684	5 932 283
<i>Semi official societies</i>		
Krajowe Ubezpieczenie Ogniowe w Poznaniu	1,288 593	2 231 298
Powszechny Zakład Ubezpieczeń Wzajemnych	1 002 481	1 029 066
Pomorskie Stowarzyszenie Ubezpieczeń	131 936	107 060
	12 226 877	16 703 080

The number of policies taken out and the sums assured in 1929 by the same societies appear from the following table also taken from the Year Book of the State Office

	Policies	Sums assured
	in zlotys	
<i>Limited Companies</i>		
Orzel	1 845	1,666 370
Port	1 115	20 491 094
Warszawskie Towarzystwo Ubezpieczeń	2 413	85 157 752
<i>Mutual Insurance Societies</i>		
Krakowskie Towarzystwo Wzajemnych Ubezpieczeń	4,855	57 485 006
"Sноп"	5 160	191 159 479
Vesta	24 345	221 898 193
<i>Semi official societies</i>		
Krajowe Ubezpieczenie Ogniowe w Poznaniu	6 139	78 600 484
Powszechny Zakład Ubezpieczeń Wzajemnych	13 532	64 826 334
Pomorskie Stowarzyszenie Ubezpieczeń	468	7 813 504
	59 378	748 188 816

It seems desirable to give the figures for 1926, 1927, and 1928 relating to the premiums paid and the claims paid for societies under the control of the State Office. These figures have been taken from the *Assekuranz-Jahrbuch*, Nos. 47, 48, 49. Figures are shown in thousands of zlotys.

	1926		1927		1928	
	Premiums	Claims paid	Premiums	Claims paid	Premiums	Claims paid
<i>Limited companies</i>						
Orzel	213	156	238	524	345	246
Port	16	8	153	253	216	178
Warszawskie Tow. Ubez.	743	630	1173	1803	1440	1170
<i>Mutual Insurance Societies</i>						
Krakowskie Tow. Wzaj. Ub.	533	324	1092	2082	1359	1232
Towarzystwo Wzaj. «Snop»	1360	1146	2161	3676	3676	2911
Vesla	2020	1054	4885	4766	4068	3627
<i>Semi-official Societies</i>						
Krajowe Ubez. Ognowe	760	717	940	1214	1664	1365
Powszechny Zakład Ubez.	914	273	1098	1504	1314	861
Pomorskie Tow. Ubez.	—	—	70	62	116	78

In regard to hail reinsurance, the following table contains statistical data taken from the Year Book of the State Bureau for Control of Insurances and relating to the sums reassured in 1929 by the societies indicated, as well as the premiums allowed to the reinsurance companies and the amounts indicating the extent to which these companies take part in the settlement of claims.

	Sums reassured zlotys	Premium granted to reinsurance companies zlotys	Extent to which reinsurance companies take part in settlement of claims zlotys
<i>Limited companies</i>			
Orzel	14 099 733	387 311	318,476
Port	18 441 981	243 682	226 784
Warszawskie	63 868 314	1 035,778	1 729 230
<i>Mutual Insurance Societies</i>			
Krakowski	11 737 046	1 134 012	(1) 1,211 364
Snop	171 087 730	2 860 470	(1) 3,588 846
Vesla	221 898 103	1,917 994	(1) 3 850 639
<i>Semi-official Societies</i>			
Krajowe	11 083 338	90,915	1 575,781
Powszechny	38 891,800	618 360	624,170
Pomorskie	6 851 478	112,159	85,051

(1) Including amounts representing extent of participation in claims reserved for settlement.

## CO-OPERATION

### Co-operative Organisation in the United States of Mexico.

#### (a) Legislation regulating Co-operation

The development of co-operation in Mexico dates from 1920. It was a consequence of the fundamental revolutionary changes that came about in that country in 1913 and was among the points included in the new agrarian programme.

established by that revolution. There was however an absence of competent direction during the early stages of that movement, as well as a tendency for the new campaign in favour of co-operation to be used rather as a plank in the political platform than in the true interests of the agriculturists. Hence no immediate practical result was seen from the first measures relating to co-operation enacted by the Federal Government, namely, the law on agricultural credit of 2 March 1926, and the law of 10 April of the same year on agricultural banks described as *ejidales* (1) relating to banks intended for the financing of co-operation.

As membership of co-operative organisations depending for their credit supplies on the *Bancos Agrícolas Ejidales* and on the National Bank of Agricultural Credit was limited to *ejidatarios* (2), or members of the agrarian communities known as *ejidos*, the great mass of small farmers including the *rancheros* or share-tenants, who undoubtedly formed, to the extent of their modest resources, the nucleus of Mexican agriculture, were left without the protection which the law extended to the *ejidatarios* only. The ordinary small holders were thus at a disadvantage, since, if grouped in co-operative societies, they were without effective representation and influence, and in addition, owing to absence of resources, were obliged to surrender the greater part of their profits, if not to the money lender, to the landowner from whom their farms were held on a produce sharing or a rent paying basis.

It thus became essential to make provision for the protection of co-operation in all its forms and to assist all agricultural interests without distinction of groupings. Accordingly a general law regulating co-operative societies was enacted on 10 February 1927 with a view to solving a situation which was becoming increasingly difficult. This law, together with earlier laws constituting the National Bank of Agricultural Credit and the *Bancos Agrícolas Ejidales*, form all the legislation in force up to the end of 1930 on the subject of agricultural co-operation. Later, in view of the comparative inactivity of these latter banks, and also with the view of unifying all activities — since the work of the National Bank and those of the special agricultural banks covered the same ground — a new law on co-operative societies was passed on 21 January 1931.

By the law of 1931 the *Bancos Agrícolas Ejidales*, or banks supplying credit to the special agrarian communities known as *ejidos*, pass under and become subordinate to the National Bank of Agricultural Credit, and for the future are no longer so designated but are instead known as regional banks of agricultural credit (*Bancos Regionales de Crédito*). All the co-operative societies, which in future will be called agricultural co-operative societies (*Sociedades Cooperativas Agrícolas*), will depend for their credit supplies on these banks. The pivot of the new co-operative structure will be the National Bank of Agricultural Credit the function of which will be to organise, regulate and supervise the regional banks, granting them every kind of credit facility for the development of their operations. These Regional Banks form the second stage in the organisation and are in direct contact with the agricultural co-operative societies which form the lowest stage. The Banks promote the formation of these co-operative societies, supply them with the credit they require and give assistance in their various activities so as to give an impetus to co-operative progress.

The new law extends its benefits to the small holders who have been till now

(1) *Ejido* is the designation given to the lands in common ownership of the inhabitants of a single commune such lands being usually contained within the boundaries of the commune.

(2) *Ejidatario*, member of an *ejido*.

neglected and left to depend upon the money lender for resources, and in this way the distinction has been broken down between the protected *ejidatario* and the unprotected *ranchero*

### (b) *Agricultural Co-operative Societies*

The Agricultural Credit law of 21 January 1931, as shown by its title dealing with the problem of the credit to be made available for Mexican agriculture. A full account has already appeared in this Review (1), but in this article which is an attempt to describe the present position of agricultural co-operation in Mexico some further attention may well be given to Chapter III of this law in which are stated the general principles for the conduct of the co-operative societies.

By the term "agricultural co-operative societies," is understood societies organised on the basis of unlimited joint and several liability by the members of a special agrarian community (*ejidatarios*) or by small farmers in accordance with the regulations of the law.

The credit required for the societies or for their members is obtained by the society from the Regional Bank of the area, or if none existent from the agency appointed for the purpose.

Such credits can only be employed for the objects approved by the Bank when granting the loan. These objects usually include organisation of the work on livestock farming, forest or other industry of the *ejido*, farm settlement or locality in which any society functions; the purchase of seeds, breeding animal implements, fertilisers, machines, etc.; land drainage or land improvement works; establishment of general warehouse; undertakings for the transportation of agricultural livestock or forest products; or undertakings for the joint sale of these products; also setting up of stores for supply of the rural household, etc.

The co-operative societies may act as agents for the collection, transport and realisation of the members' products, and as representative of the members for the regulation of all fiscal or administrative questions which may arise between the member and the authorities of the township, the State or the Federal Government provided such questions relate to farming. Societies may take steps to bring under cultivation common lands belonging either to *ejidatarios* or to small farmers. Among their principal functions is the encouragement of the economic organisation and of the moral and social progress of the members, as well as the raising of the standard of living in the rural household.

All members of a co-operative society must be of Mexican nationality, provided this condition is satisfied membership is open equally to cultivators having the status of *ejidatarios* and to small farmers. As regards the former, these members of the special agrarian communities may form a co-operative society only when the legally prescribed formalities have been observed and provided that the regional bank of the area in question has authorised the formation of such a society. As regards the small farmers, for the purposes of a co-operative association all persons are considered as such who habitually engage in the work of cultivating or otherwise utilising the soil, whether as owners, concessionaries, settlers, rent paying or produce-sharing tenants, provided only that all such work is carried out by them personally with the assistance of their family or with outside help — not more

(1) See No. 7 of year 1931, p. 271

than five persons outside the family to be engaged — and that the area of the farm does not exceed that fixed by the agrarian laws as the maximum for the small holding. The co-operative societies of these small farmers should be formed by the rural dwellers of one and the same locality possessing similar interests, and farms and crops of a similar type, and with personal knowledge of each other, all factors tending to ensure harmony and co-operation.

In reference to the number of members essential for the formation of a co-operative society, the societies of members of agrarian communities (*ejidatarios*) must include the majority of the members of the community in which it is intended to form a society ; societies of small farmers cannot be formed with less than ten members. If this number cannot be reached, then the small farmers may join the co-operative society of an agrarian community (*ejido*) but have no rights in the common lands nor can they exercise the rights of a majority.

In every agricultural co-operative society a special fund will be formed from the proceeds of the profits supplemented by a percentage of two per cent. on the total of the loans made by the society to its members, and in addition by another two per cent. of the gross returns.

In the case of the co-operative societies formed by *ejidatarios* this reserve fund will be increased by all the proceeds of the common farming of the lands of the *ejido*.

The administrative and supervisory bodies of the co-operative societies are as follows : the general meeting of the members, the Management Council, the Committee of supervision, the manager and the District Head who is at the same time treasurer. The general meeting is the supreme authority, each member having one vote ; ordinary meetings are held every two months and an extraordinary meeting can also be summoned at the request of the District Head, the Management Council, the Committee of Supervision, or of, at least, 20 per cent. of the members.

The Management Council directs the business of the society in accordance with the instructions received from the general meeting, submitting a report on the management yearly to that body. The number of members forming the Management Council will be fixed by the rules of the society such number not to be less than three or more than nine. The election of members of the council will be by a majority of votes, and on expiration of their term of office members must be re-elected.

The Committee of Supervision represents the minority party in the society ; it consists of three members elected by the minority at the time of the nomination of the Management Council. The duty of this Committee is to see that the society observes its commitments, that its operations are in accordance with the provisions of the law and with the rules of the society that the funds are properly invested ; in short its function is to see that the society is properly managed. For this purpose, the members of this Committee are entitled to inspect, without restriction of any kind, all classes of documents, books and papers of the society. The services of members of the Committee and of the Council are unpaid, and some form of emolument is distributed only when the society is making good progress and provided that the bank on which it depends approves.

The manager is appointed each year by the Management Council and his powers and functions are those corresponding to this position in limited liability companies, with restrictions or extensions as prescribed by the rules of each co-operative society.

The cash of the societies, the care of their funds and securities, as well as the carrying out of the credit operations, are all, while subject to the direction of the Manager, in the hands of the District Head Treasurer, who is appointed by the National

Bank of Agricultural Credit on the proposal of the Regional Bank on which the society depends.

In accordance with the law, a deduction of 25 per cent. is made on all profits for payment into the provident fund of the society; another 25 per cent. is employed to increase the reserve fund referred to earlier and the remainder will be handed over to the Department of Peasant Savings (*Departamento de Ahorros del Campesino*), so that there may be credited to each of the members the amount due to him in the proportion of the business done by each during the financial year.

The Department of Peasant Savings (*Departamento de Ahorros del Campesino*) should receive a brief mention on account of the relations existing between it and the co-operative societies; and also because it was brought into existence by the same law of 21 January 1931 and is an outstanding example of the trend of modern agricultural financial legislation. It has been formed as a department of the National Bank of Agricultural Credit with a view to the encouragement of the habit of thrift among the rural population of the Republic of Mexico. Although a section of the Bank it is independent. Deposits entrusted to it must be invested in loan operations under guarantee of pledge warrants (*bonos de prenda*) issued by warehouses; such deposits will bear interest at three per cent. and are not liable to legal sequestration or distraint. Depositors of savings will have the right to withdraw funds on the following conditions: up to 25 pesos, on sight; more than 25 but not exceeding 50 pesos, with a fortnight's notice; sums exceeding 50 pesos, with a month's notice. If however the depositors are members of a co-operative society, they may withdraw any proportion of their deposit without previous notice provided that the sums required are intended for the needs of their farms.

Returning to the agricultural co-operative societies, the law enacts that dissolution and liquidation shall take place in accordance with the terms of their constitution, provided that the financing bank authorises dissolution. The liability of the members continues for one year after their withdrawal from the society. In the event of dissolution or liquidation, the amounts corresponding to the reserve and to the provident fund will not be available for distribution among the members, and the assets will in the first case be used to cover the debts contracted by the society. Any remainder there may be will be paid into the Regional Bank concerned and will be devoted to the following purposes:

1) If within one year of the date of the dissolution of the society, another is formed including the majority of the members of the earlier society, then these remaining funds will be handed over to the new society;

2) if this condition is not fulfilled, the funds will be applied to the payment of premiums on insurances against losses from plant diseases, live stock epidemics, hail, or other losses of crops or live stock; to the establishment and upkeep of provident institutions for the benefit of farmers, pensions for old or disabled cultivators or similar purposes.

The Law of 21 January 1931 also authorises, with a view to the regulation of the storage, of agricultural products, the establishment of co-operative warehouses for such products, whether already transformed or not. These warehouses will have a local character and will belong to the co-operative societies, but their use must be authorised by the Regional Bank of the area concerned. They will be empowered to issue warrants which will be negotiable only if they bear the Bank guarantee.

According to the law the co-operative societies may undertake the following activities: credit, production, labour, insurance, building, transport, joint sale, joint purchase and a combination of two or more of the activities indicated.

The law allows the formation of Unions of co-operative societies or federations,



described in the law as co-operative societies composed of co-operative societies (*Sociedades cooperativas integradas por cooperativas*). These are recognised as organisations next in order to the local societies and as carrying on similar activities.

(c) *Present Position and Probable Future of Co-operation.*

At the present time the co-operative movement has prospered when it has been possible to obtain the necessary credit for organisation, as is the case with the societies depending on the National Bank of Agricultural Credit and the Regional Banks ; on the other hand when the attempt has been to rely on internal resources only, success has not followed except within very narrow limits. This poor result has been largely due to want of preparation of the agricultural environment and to the inexperience of the persons who at the outset directed the movement. It is however noticeable that in the present situation of Mexico as affected by the world economic crisis the farmer is impelled to seek refuge in co-operation, the proof of this being the rapid increase in the number of requests from the different regions for official instructions in respect of co-operative organisation.

The Secretariate of Agriculture supplies the following data in respect to the number of co-operative societies organised and on their distribution at the present time over the territory of the Republic.

Lower California . . . . .	5	Nayarit . . . . .	2
Campeche . . . . .	1	Nuevo Leon . . . . .	1
Coahuila . . . . .	1	Oaxaca . . . . .	4
Chiapas . . . . .	4	Puebla . . . . .	24
Chihuahua . . . . .	4	Quintana Roo . . . . .	2
Federal District . . . . .	3	San Luis Potosí . . . . .	1
Durango . . . . .	7	Sinaloa . . . . .	1
Guanajuato . . . . .	3	Sonora . . . . .	1
Guerrero . . . . .	3	Tabasco . . . . .	2
Hidalgo . . . . .	2	Tamaulipas . . . . .	5
México . . . . .	8	Veracruz . . . . .	33
Michoacan . . . . .	5	Yucatán . . . . .	2
Morelos . . . . .	1		

The greater number of these are agricultural production societies, some but fewer are stockbreeding societies and a much smaller number are societies for industrial transformation ; the main activity is production and the subsidiary activities are joint sale, joint purchase and sale, and credit. There is only one co-operative labour society.

Considering within how short a time agricultural co-operation has been organised in Mexico, it is in no way surprising that the movement is not further advanced at the present time. On the other hand, if comparisons are to be made, it will be seen that an extremely satisfactory result has been obtained by introducing a system which, while it has found congenial soil for development in the revolutionary conceptions that prevail in the country, yet has not had the effect of constituting a radical innovation in the customs and methods that have been in force over a long period of years.

Practical experience will result in improvement, and this consideration, joined with the growth of special institutions for instruction in co-operation, and the increasing stability and adequacy of the co-operative system in Mexico, forms an inducement to believe that co-operation will make great progress in Mexican agriculture for the benefit of all interests. The country depends on its own resources, and at the present time what is needed in order to utilise these is an intensive co-operative education, the training of expert managers and a legislation wide from all points of view. Since all these factors are coming into play, it is to be hoped that within a short time the Republic may be able to count on the prosperous system of co-operation that its efforts have merited.

M. B

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### MISCELLANEOUS

#### **Some Economic Problems of Tropical Agriculture.**

The problems of tropical agriculture and administration are becoming increasingly recognised as important factors in world agricultural economics, and for this reason considerable interest attaches to a Conference of Directors of Agriculture in the British Colonies held from the 14 to the 17 of July 1931 in London.

It will be seen that, as nearly all of the British colonies and protect rates lie within the tropics, with an aggregate land area of approximately 2,600,000 square miles (or about 670 million ha.) and include a great variety of races in their populations, the body of opinion obtained by means of this Conference on the problems of tropical agriculture and administration may be regarded as possessing much of general interest and value.

Among the subjects included in the agenda were the following : training of agricultural officers ; training of locally recruited officers, other than European, for the subordinate services in agricultural departments, functions of local advisory agricultural bodies ; produce inspection and grading ; co-operation ; agricultural education ; control of crop pests and diseases, methods of field experimentation ; district registers ; animal husbandry in relation to agriculture.

It is proposed to summarise briefly here the course of the discussions and the resolutions adopted, with special reference to their bearing on economic questions.

The discussion relating to the position assigned to *co-operation* in the activities of Departments of Agriculture in the countries represented at the Conference was of outstanding interest. The memoranda received were reviewed, and it was evident from these as well as from the observations of the speakers that the stages of progress in respect of agricultural co-operation varied greatly in the different areas, while there was also considerable variety in the character of co-operative activities. On the whole, co-operative marketing is well developed throughout the West Indies, and in the Gold Coast, Uganda and elsewhere, is making good progress among native growers. In the Federated Malay States and Straits Settlements a separate Government Department of Co-operation has been formed, and progress has been made in organising agricultural credit and the marketing of agricultural products, although the development of marketing and the more advanced forms of co-operative enterprise is rendered difficult in these areas by the absence of business ability among the growers.

The points that emerged in the course of the discussion may be briefly summarised thus: it was generally held that, whether or not agricultural co-operative credit and co-operative marketing should either or both properly come under the organisation of a Department of Agriculture, in any case these forms of co-operation have their place as methods of possible solution of the problems relating to disposal of agricultural produce and financing of farming operations, and consequently agricultural co-operation should be among the subjects to be studied by Departments of Agriculture. These Departments should moreover undertake the general study of the economic and domestic conditions of any particular region in view of the application of such remedial measures as may be necessary or applicable.

The resolution of the Conference on the subject of co-operation is given *verbatim* as possessing special interest. "The Conference desires to record the view that an integral part of the duties of Colonial Governments towards agriculture should be to supervise and assist in the supply of seed, fertilisers, implements, etc. to small holders, the inspection, grading and disposal of their produce, and the financing of their operations, either by means of co-operation or otherwise, and that if adequate provision is not made in this respect, the work and expenditure of Departments of Agriculture may tend to be wholly or partially ineffective.

"There is definite need for officers in Departments of Agriculture with specialised knowledge and training in agricultural co-operation and economics.

"Agricultural Departments have definite duties towards the improvement of the preparation and disposal of agricultural products through co-operative organisations, and considers that, where necessary, special branches should be organised for the supervision and guidance of co-operative societies which are not exclusively for thrift and credit".

The importance of *produce grading and inspection*, both for improvement of quality and also for the economic welfare of the producers was abundantly clear from the whole course of the discussion. Detailed reports submitted by the authorities in Nigeria, Kenya and Jamaica in particular made evident the satisfactory results of the institution of these services, in respect of the principal products of the respective territories. It was agreed that costs of grading and inspection should be borne by the industry concerned by means of a cess or levy, although in the initial stages of any such scheme from public funds some assistance towards capital expenditure and the inauguration of the service may be justified. Contact with the trade should be maintained through Advisory Committees. The Higher inspecting staff should form a section of the Agricultural Department, while the subordinate staff should be engaged on terms equivalent to those prevailing in

commercial business with salary increments depending on good and efficient work.

The issue of certificates of grade, while essential under certain conditions, was considered to be a matter properly left for decision as regards the separate products by the responsible officials.

In view of the great importance attached to the inspection of produce and grading, the Conference recommended that the Empire Marketing Board should be requested to make a comprehensive survey of the systems in force throughout the British Empire for agricultural products, with a summary of the conclusions to be drawn on the subject.

The place of *animal husbandry in relation to agriculture* was the subject of several detailed memoranda and was very fully discussed by the Conference in conjunction with the Adviser on Animal Health to the Colonial Office. Recently considerable attention has been given to mixed farming in certain tropical and sub-tropical areas, notably in Nigeria, Kenya and Northern Rhodesia, with good results, but experience has shown that development of animal husbandry is bound up with questions of pasture management and feeding problems so that any policy in regard to it must be decided locally in accordance with the conditions of the country.

The resolution passed by the Conference accordingly stressed in general terms the increasing importance of mixed farming in agricultural development in the colonies, stating that the maintenance of live stock on holdings is essential for the preservation of soil fertility. It was further the opinion of the Conference that work on animal husbandry cannot normally be separated from the operations of Agricultural Departments.

C. H.

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### LAND SYSTEMS

#### The Agrarian Reform in Estonia from 1919 to 1930. (1)

##### I. — INTRODUCTION

The Estonian Republic is situated on the eastern coast of the Baltic Sea, and is bounded on the north by the Gulf of Finland, on the east by the U.S.S.R., on the south by Latvia, and on the west by the Baltic Sea.

The territorial area of Estonia is 47,546.70 square kilometres. Of the total area 3,719,144 hectares consist of agricultural productive land and 1,035,726 hectares consist of unproductive lands and inland waters.

Of lands capable of cultivation 1,046,996 are arable lands, 1,796,020 are natural grasslands and pastures and 898,279 hectares are forest land.

The arable fields were in 1930 cultivated as follows :

Cereals and leguminous crops . . . . .	518,809 ha.
Grass . . . . .	206,305 »
Root crops . . . . .	76,112 »
Flax . . . . .	32,547 »
Fallow . . . . .	187,954 »
Horticultural and other field crops . . . . .	25,296 »
Total . . .	1,046,996 ha.

According to the results of the 1922 census the population of Estonia was 1,107,059, those inhabiting the large towns and small market towns numbering 298,873 while the rural population was 808,185.

From the standpoint of nationality, the distribution is as follows : Estonians 969,976 (245,191 in towns and 724,785 in the country), Russians 91,109 (26,444 and 64,665 respectively), Germans 18,319 (respectively 14,257 and 4,062), Swedish 7,850 (respectively 1,231 and 6,619), other nationalities 19,805 (respectively 11,750 and 8,055).

(1) This article has been prepared in response to the request of the Bureau by the Minister of Agriculture of Estonia to whom it is desired to express the gratitude of the International Institute of Agriculture. As the article reached us in German certain terms for which no equivalents exist in English are shown in brackets in that language.



The following statement shows the number of persons engaged in and deriving maintenance from :

agriculture . . . . .	650,764
industry . . . . .	168,565
trade . . . . .	44,004
transport and communications . . . . .	36,908
professional classes, officials, physicians . . . . .	61,703
domestic servants and in temporary employment. . . . .	85,302
in other employments . . . . .	59,813

## II. — CAUSES OF THE AGRARIAN REFORM.

If a just idea of the necessity for agrarian reform in Estonia, of its economic and political causes and its legal and moral bases is to be formed, a closer acquaintance must be gained with the agrarian conditions that have obtained in Estonia in the course of centuries.

The causes of the agrarian reform are to be sought in the social and economic situation of the Estonian people, which up to the time of the Russian Revolution was almost intolerable and hopeless in spite of the numerous efforts made to improve conditions and to raise the standard of living at least to the level of the rural population of Eastern Europe.

As a result of the prevailing liberalism, the Estonian peasants were, it is true, freed from serfdom at the beginning of the 19th century. Their general situation however remained almost unchanged, owing to the fact that all the lands on which the peasant farmers had usufruct were declared to belong in their entirety to the noble estates, and to the fact that no powers of migration were ensured to the rural population such as had been partially gained in other European countries and even in Russia.

The landowner thus became the potential source of all agricultural work and of all means of livelihood, and it depended on his favour whether the rural population could find the means of subsistence or not. To obtain the chance of cultivating a plot of land the peasant was required as before to do service on the estate lands. Although the natural growth of the rural population brought about an increase in the number of workers, there was no diminution in these demands for forced labour but rather an increase, owing to the introduction of a more intensive type of cultivation in the second half of last century.

On the other hand there was a shrinkage in the areas under peasant cultivation due to the expansion of the estates at the expense of these. Up to the reform which was carried out in the sixties it constantly happened that lands in peasant cultivation were curtailed or were amalgamated with the estates or at best were exchanged for poorer or uncultivated land. In consequence the conditions of existence of the rural population naturally deteriorated.

The enfranchisement of the peasants, or the "first agrarian reform", as it is called by the Baltic historians, had thus only a moral significance ; it created a national sentiment and the indigenous Estonian population which had for so many

centuries remained patient and quiescent began to seek means for improvement of their economic situation. This struggle for better conditions was rendered very difficult from the fact that the power remained in the hands of the large landowners. There was in existence in the Baltic States a system of independent administration devolving on the owners of large estates. For this class the measures enacted by the central government of the Russian Empire had little or no significance, and were either altogether disregarded, or were carried into effect in a much modified form corresponding to the interests of the landowning class.

In this way the situation of the peasants only became worse after the abolition of serfdom, and even among the large landowners from time to time the feeling was voiced that changes ought to be introduced. A long time however elapsed before practical measures were taken for ameliorating the *status quo*. Differences of opinion among the estate owners and the conflict between the independent local administrations and the central government had the effect of postponing for nearly twenty years the carrying out of the second agrarian reform. Thus, for example, the forced services, the infliction of corporal punishment, the prohibition of migration from place to place were prolonged in Estonia till after 1860, that is to say till after the publication of the new law relating to the peasant farmers. From this epoch the peasant farm holdings began to be on a rent paying rather than a produce sharing basis, and thence the transition took place to sale to the farmers of the lands and in addition the rural population were permitted to migrate although in limited numbers and under definite conditions.

The economic situation of the peasants did not however greatly improve; money rents were high and the purchase price of land was beyond the means of those who were engaged in farming it. According to A. Tobien ("Die Agrargesetzgebung Livlands in 19ten Jahrhundert"), the price of land was as a rule higher than in the "black earth" departments of Russia, and according to the Russian senator Massenain, who made a report on conditions in the Baltic provinces, it was three or four times as high. Under such conditions the process by which the peasants acquired ownership of land could only be very slow.

In the former province of Estonia — the northern part of the present Republic — sales of lands to peasant farmers, according to A. v. Gernet ("Geschichte und System des bauerlichen Agrarrechte in Estland"), amounted up to 1883, that is in the course of 20 years, to 16.84 per cent. only of the lands formerly under peasant cultivation. Up to 1899 the total was 12,592 units, or 47.62 per cent. only. In the former Government of Livonia (now the southern part of Estonia) according to A. Tobien, the percentage of land sales was 25.7 per cent. by 1872, and 85.3 by 1902. On the other hand, of the lands under peasant cultivation which formed part of the estates belonging to the Treasury of the Russian Empire up to 1886 in the northern Government 418 units were sold to peasants in all, while in Livonia the farms sold in this way numbered 425 in 1860. The more rapid sale of lands forming part of the Crown estates is explained by the fact that the price of this land was only a third of the price of that of the noble estates.

In 1918 the number of units not yet purchased but merely rented by peasant farmers throughout the whole State was 23,023, or an area of nearly 560,000 hectares. Sales had been effected to the peasants of 51,640 units with a total area of nearly 1,770,000 hectares. There remained in the hands of the large landowners 1,149 estates with a total area of 1,880,000 hectares.

In respect to the lands they sold the large landowners retained a whole series of economic privileges, *e. g.* the right of distilling and brewing, the right of constructing mills, of establishing markets, as well as hunting and fishing rights. In this way

the peasant farmer was kept as before in a certain economic dependence on the estate owner. In Southern Estonia, or the former province of Livonia, the repair of all public roads was an obligation on the peasant farmers.

Even worse off than the peasant farmers were the farm workers ; until quite recently no measures for their protection existed.

The farm labourers were mostly to be found on the peasant holdings during the period before the transition to a rent-paying basis began. So long as the peasant farmers had to give services on the noble estates in exchange for the use of their lands, each one usually employed for this purpose two or three labourers engaged by the year. Life on a peasant farm of a labourer whose duty it was to perform these forced services could not have been easier than that of the peasant farmer himself, and was probably much harder. Nor did the situation of the labourers improve in any way when in the sixties the forced services were abolished and the conditions under which the peasant farms were worked became modified. The greater number of the farm workers who did the work on the noble estates had nothing except the usufruct of the plots of land known as "Quoten-" or "Sechstelländereien", *viz.*, pieces of land detached from the total area of the land assigned to the peasant farmers and amounting to about one-fifth or one-sixth, in accordance with the land register as prepared at the time of the peasant enfranchisement by the laws of 1859 and 1860. The double purpose was thus served of settling those persons who would work on the noble estates and of rounding off these lands. A small number were taken on as permanent labourers on the estates at a very low wage. It was unnecessary for the landowners to take trouble to improve the conditions of their labourers, since it was always easy to obtain labour. On the reserve lands, the "Quoten" and "Sechstel" lands, there was a mass of people who could be employed on the estates on the principle of forced services. In this way the burdens weighed even more heavily than before. The holders of the plots so designated were thus paying their rent in the form of forced services up to the Russian Revolution.

The position of any labourers who remained on the peasant holdings was not more satisfactory, as the farmer, whether tenant or owner, was crippled by the high rent or heavy purchase price and could in consequence do nothing to improve the economic situation of his labourers.

The harsh economic conditions that have been described resulted in a profound hatred of the large landowners on the part of the rural population and the pent up irritation took the form of revolts at Heiligensee in southern Estonia in 1841, in Mahtra in northern Estonia in 1858, while in 1905 many estates were burnt and pillaged.

This description of the economic conditions prevailing before the agrarian reform should include some mention of land settlement. This however was either not organised at all or very inadequately. Up to the middle of last century all provision of the kind formed part of the obligations of the great landowner, who acted according to his judgment and naturally in his own interest.

On the noble estates settlement could only take place if services were undertaken in exchange. The scanty attention given to the needs of the existing rural population finds confirmation in the fact that on the initiative of the Diet of Livonia settlers were brought in between 1860 and 1870 from Germany as farm workers. The travelling expenses of these persons were paid and they received higher wages than the Estonian workers so that these latter finding themselves left without the chance of work or the means to live took refuge in the towns or emigrated.

At a later period also German colonists were brought in and a purely German settlement is even still in existence in the Võru district in the commune of Sõmerpalu.

During the German occupation in 1918 the estate owners of that area proposed to hand over one-third of the noble estates to German settlers.

It was only after 1870 that the indigenous population could obtain land for settlement without the obligation of forced services, and even then it was only possible on the Russian crown lands. Even so there were limitations; the crown lands were mainly in southern Estonia and settlement was conditional on acceptance of the Greek orthodox faith.

The settlers' plots formed by order of the Russian administration were usually too small, being only from one-two hectares as a rule, so that the settlers often found it difficult to maintain their families on these parcels, and accordingly this measure did not do much for the raising of the social position of the people.

The Russian Peasants' Bank only began its settlement operations in Estonia in the present century (1907), and in the short time which has elapsed has only been able to obtain very small results. For this reason the situation of the youthful generation, that is to say of the second and third son in a family whether of owner or of the labouring class, was very serious: such persons had no chance of making their living in their own country.

The conditions outlined above, the difficult economic position and the absence of favourable openings for land settlement, resulted with the rural population in a general migration to the towns and to the provinces in the interior of Russia whenever opportunity offered. In Southern Estonia the prospecting (*Auskundschaften*) of land for settlement began in the forties, in Northern Estonia in the sixties. The number of the urban population rose in the years 1871 to 1897 from 48,300 to 156,000 and in 1922 had reached 298,000. According to the statistics of Estonians settled in other countries, the number who migrated to Russia and to foreign countries was 250,000 in each case, but it is probable that this figure should be higher, from 600,000 to 1,000,000, since many Estonian emigrants have been naturalised and are accordingly hard to trace.

Under different agrarian conditions the necessity for emigration would never have arisen; the country was comparatively sparsely populated — the 1922 census returns give a density of 13.6 to 18.9 with an average of 17.5 persons to the square kilometre — the geographical situation was favourable with the capital of Russia providing a market close at hand, and the natural conditions of soil and climate would have favoured a much denser population and a much more extensive area under cultivation than was the case at the time of the outbreak of war.

If the situation thus arisen was to be improved, the social and economic conditions modified and developed along sound lines, the problem of land settlement solved and the general level of living raised, a new agrarian reform was essential. An impulse was given by the Russian revolution of 1905 for the preparation of a series of proposals none of which however were realised owing to the opposition of the local nobility. Even the comparatively moderate proposal of the Russian constitutional democratic party (the so-called cadets' party) was not adopted by the Government.

The great Russian Revolution which broke out during the European war, the difficult period of the German occupation and the struggle which followed for Estonian independence, all contributed to a revival of the agrarian question in a form more imperatively demanding attention than ever before. The patience of the people was exhausted and their faith in a peaceful solution lost. It was evident that the land should now be taken away from the great landowners who had for centuries dominated the people on the land and who for the most part had always shown themselves hostile. The land was declared the property of the people. No delay

was possible, as on the rapidity of the reform depended the future of the people and of the whole land. The alternative would have been that the anarchist communist movement which had seized the power in Russia would have extended to Estonia, would have destroyed it as an independent State and would have stifled every germ of further development in the Estonian people.

The first care of the Temporary Government of the Estonian Republic, when it finally achieved independence at the end of 1918, was to reorganise agrarian conditions on the basis of a radical agrarian reform.

### III. — THE LEGAL BASIS OF THE AGRARIAN REFORM.

#### *Legislation.*

The first provisions relating to the agrarian reform were contained in the Decrees promulgated on 27 November 1918 by the National Council (*Maanõukogu* or temporary legislative assembly) regarding the exercise of control over the noble lands and the beginning of an agrarian organisation. These Decrees were followed by a series of Orders issued by the Temporary Government in which the estates and lands situated in the territory of the Estonian Republic but belonging to the Russian Empire and to the local nobility were declared to be the property of the State and a control was introduced over the working of private properties (large estates) in order that badly worked farms should be managed by the State.

In virtue of the provisions they contained, these measures may be regarded as preparatory to the agrarian reform; their object was to conserve the national property and to protect the country against the risk of a famine until the Constituent Assembly decided on the question of agrarian reform. We may here note that a third of the estates (about 400) had been abandoned by their owners in consequence of the conditions brought about by the War and the Revolution; the necessary labour could not be found and the fields were not ploughed and remained uncultivated. But at the same time the direction to be taken by the future agrarian organisation was traced in these measures, since in pursuance of the Order of the National Council dated 27 November the Minister of Agriculture was instructed immediately to set about the preparatory work for increasing the land attached to the labourers' dwellings (*Kantnikud*) and to supply land to those who did not possess it. By an Order of the Temporary Government dated 20 December 1918 the citizens who had distinguished themselves at the front by their courage or had become disabled, and also the families of soldiers who had been killed in fighting for the country, obtained for cultivation land belonging to the Peasants' Bank or to the Russian Crown that had been expropriated by the State.

Immediately after the formation of the Constituent Assembly, the Agrarian Law was drafted; it was completed in the autumn of 1919 and adopted on 10 October of that year.

The principal object of the Law was the liquidation of the large estates and the creation of small holdings in their stead.

In order to create a reserve of lands belonging to the State the following lands were expropriated by the Law:

1. All estates belonging to the owners of the noble lands, and lands detached therefrom, except the lands belonging to the communes, to philanthropic and scientific institutions, together with all their farm stock. The stock which is the property of the tenant and belongs to a single farm is not subject to expropriation, nor is the

stock of which the owner has need for the working of a settlement holding, if such has been allotted to him.

2. The parishes and lands belonging to the Church, except the cemeteries and the land on which churches and convents are built, including the farm attached to them (1).

Under the Agrarian Law, the large estates situated within the boundaries of the former Estonia were transformed into State property. In those parts of the country which had previously belonged to the Governments of Petersburg and Pleskau and after the Treaty of Peace had been incorporated into the Estonian Republic — their area is 2,250 square kilometres — there were no noble estates. That is why the Agrarian Law of 1919 did not apply to conditions in these regions and the large estates there were expropriated by the Special Law of 22 June 1922. In these regions estates of more than 75 dessiatines (about 82 hectares) were considered as large estates. The farm stock was not expropriated.

Later the State reserve of lands was completed by the Law of 26 March 1926 on the transformation of abandoned lands. The boundary between Estonia and Russia fixed by the Treaty of Peace divided in two a large number of lands, the majority of which belonged to the village commune; the villages and the farms themselves remained inside the Russian boundary, whilst their lands were to a greater or less extent incorporated with the territory of the Estonian Republic; these lands were added to the reserve of lands belonging to the State under the Law of 26 March 1926.

To resume, in order to create a State reserve of lands in former Estonia, that is, in the territory which was the nucleus of the present Republic, all the large estates were expropriated to which noble and economic prerogatives were attached, and in the territory added to Estonia in conformity with the Treaty of Peace between Russia and Estonia (that is, in Transcaravia and in the region of Petchori) all the large estates exceeding 75 dessiatines and all lands left without an owner were added to the reserve of lands.

For lands declared to belong to the State reserve of lands an indemnity was paid — the Law on the payment of indemnities was adopted on 5 March 1926 — except in the case of :

(a) peasant lands, *Quotenland* (Southern Estonia) and *Sechstielland* (Northern Estonia) ;

(b) lands belonging to owners who had acted against the independence of the Estonian Republic ;

(c) lands belonging to the Russian Government, to the Peasants' Banks and to the nobles ;

(d) lands left without owner (in conformity with the Law of 26 March 1926).

The Agrarian Laws above-mentioned and the Laws passed to complete them, namely :

(1) The large estates consisted of (1) Noble estates (*Rittergüter*) ; (2) lands belonging to the Crown ; (3) lands belonging to the churches and (4) lands detached from the noble estates. There were in all 1,149 large properties with a total area of 2,428,087 hectares, or 57 per cent. of the total area.

Of the large estates, 1,965,818 hectares (80 per cent.) were owned by 618 individuals; 239,518 hectares (9.9 per cent.) belonged to the Russian Crown ; 67,052 hectares (2.7 per cent.) belonged to the Agrarian Banks ; 54,137 hectares (2.3 per cent.) belonged to the churches ; 53,836 hectares (2.2 per cent.) belonged to noble institutions (*Ritterchaft*), and 47,726 hectares (2 per cent.) to towns.

Of the total area of 2,428,087 hectares, 537,015 hectares (22.9 per cent.) were let to small farmers and in all the number of lands farmed by tenants was 23,023.

(1) The Law of 16 June 1925 on the conditions under which lands could be granted in emphyteusis or in ownership ;

(2) The Law of 18 December 1925 on the granting of land as a gift in reward of services ;

(3) The Law of 10 February 1928 on the granting in ownership of industrial enterprises and of orchards declared to belong to the State ;

(4) The Law of 6 December 1927 on the attribution of lands to towns (large towns and small market towns) ;

(5) The Law of 10 February 1931 on the attribution of lands to autonomous administrations and to organisations of public utility ;

lay down the following bases for the transformation of the State reserve of lands :

The forests situated on the lands expropriated are not distributed, but remain the property of the State, while the other lands capable of being utilised for agricultural purposes shall be let in emphyteusis or sold :

(a) to serve for the housing both of inhabitants of towns and of the rural population ;

(b) for the formation of small agricultural holdings ;

(c) to enlarge existing small holdings ;

(d) to agricultural, educational, or co-operative associations, or to associations of public interest, for their special purposes ;

(e) to the autonomous administrations of towns to provide the area necessary for the enlargement of their lands ;

(f) to the rural autonomous administrations (districts and communes) in order that they may provide land for their officials and employees living in the country and have the areas necessary for purposes of public interest.

The State reserve of lands may also be employed :

(g) to exchange with lands in private ownership in order to round off estates, and

(h) to let lands on lease for a term of years (up to 25).

It is in conformity with this last point that the provisional utilisation of the State reserve of lands has taken place. All the farms, both those which already existed and those which were formed by the division of the large holdings, were let for a term of years (usually for six years) in order that they might be cultivated. The sale of the land, or the letting of it in emphyteusis began in 1926, that is, after the promulgation of the special laws relating thereto which we have mentioned above (1).

(1) Besides the laws on agrarian reform already mentioned, the following laws must also be considered as forming part of the agrarian legislation : (1) the Law on the compulsory sale of lands belonging to communes and institutions and rented land in private ownership (26 February 1926) and (2) the Law of 21 December 1926 on the compulsory sale of rented lands in existing market towns and market towns in course of formation.

These two laws aim at guaranteeing to the tenants of lands not expropriated by the State under the agrarian laws a certain conditional security, making it possible for them to buy their lands with or without the consent of the owner. Of the tenants of peasant lands only those have this right of purchase who have not more than 4 hectares of rented lands, garden and arable fields and in the case that the dwelling-house belongs to the person who cultivates the land or that half the arable land has been created by him by the cultivation of land previously uncultivated. The maximum size of a holding which can be so purchased is 50 hectares and in existing market towns and market towns in course of formation 7000 square metres. Tenants already possessing land have not the right to buy the lands they rent. The payment for lands subjected to compulsory sale takes place on the basis of an agreement between the contracting parties. If such an agreement has not been reached, the payment is fixed by the consolidation commissions in accordance with the conditions laid down in the Law on the granting of State lands in emphyteusis or in ownership, but in the existing market towns and market towns in course of formation in accordance with average local prices.

*The Authorities by which the New Agrarian Organisation is Carried out.*

The duty of taking over from the former owners the estates expropriated under the Agrarian Law, of administering them, of providing for consolidation and settlement devolves on the Ministry of Agriculture, which carries out these measures in conformity with regulations issued by the Government of the Republic. The lands expropriated under the Agrarian Law were taken over and valued by a local commission, of which the chairman is the local representative of the Ministry of Agriculture and the members are the representatives of the local administrations of districts and communes.

The distribution of the land is made by the consolidation commissions — of first instance by the district commission, which consists of a judge as chairman, of two representatives of the Ministry of Agriculture and of one representative of each communal and district administration, and, of second instance, by the principal commission consisting of four high officials of the Ministry of Agriculture with a judge as chairman, to which there is an appeal from the district commission.

Against the decisions of the principal commission appeal may be made to the Supreme Court.

The competence of the consolidation commission extends also to the fixing of the amount of the settlement loans and of the indemnities to be paid to the former owners.

As to the selection of settlers, the persons who are to receive lands out of the State reserve of lands (settlement lots) are chosen by the autonomous district administration from amongst the candidates proposed by the communal council. Against its decisions an appeal may be presented to the competent court of justice.

Lands intended for the erection of dwellings (*Heimstätten*) are drawn by lot amongst the inhabitants of the localities in question who do not possess lands, a procedure which must be confirmed by the district administrations.

Ex-service men who had taken an active part in the war for the liberation of Estonia and specially distinguished themselves by their bravery in face of the enemy or who have become disabled and in addition, the families of soldiers who fell fighting for their country, settlers on lands newly cleared, former workers on noble estates, artisans and fishermen can obtain lands in pursuance of a decision of the Ministry of Agriculture without the intervention of the autonomous administration.

The financial operations rendered necessary by the agrarian reform — the receipt of rents and of purchase money, the payment of loans, etc. — are carried out by the National Bank of Estonia, founded in 1926.

As appears from what we have just said, no provision was made for the special participation in carrying out the agrarian reform of the representatives of the rural population organised according to social groups.

The protection of local interests is assured by the participation of two representatives of the autonomous administration in the work of the consolidation commis-

When the price of the land is compulsorily fixed without a preliminary agreement, the price is paid to the owner by the State which afterwards collects it from the purchaser in annual payments over a long series of years.

The purchasers of rented land transferred in virtue of an agreement and also those who occupy lands rented from existing market towns or market towns in course of formation do not enjoy this privilege.

Under this Law about 10,000 rented holdings have been compulsorily sold.



sion, whilst the choice of the persons who are to receive land is completely left to the judgement of the autonomous local administration in which it has been provided that all social classes shall be represented on the basis of a proportional vote.

[*The Classes of Landowners subjected to Expropriation.*

In establishing the new land system, the measures were first applied to the lands belonging to the Russian Empire, to the Peasants' Bank and to the corporation of the nobility, the *Ritterschaft*. These included 92 estates with a total area of 239,518 hectares belonging to the former Russian Empire; 19 estates with a total area of 67,052 hectares belonging to the Peasants' Bank, and 9 estates with an area of 51,109 hectares belonging to the *Ritterschaft*.

The noble estates (*Rittergüter*) belonging to private individuals, the lands forming part of the parish lands and other lands belonging to the Church were also subjected to expropriation under the Agrarian Law.

In all, 1,934,678 hectares belonging to individuals and 54,137 hectares belonging to the Church were expropriated.

In consequence of the extension of the Agrarian Law to parts of the former Russian provinces of Pskov and Petersburg, lands were there subjected to expropriation when the owner possessed more than 82 hectares. Under this provision 67 estates with a total area of 28,538 hectares were expropriated. Estates cut in two and incorporated in Estonia by the Peace Treaty concluded with the U. S. S. R. were also subjected to expropriation by the Law on abandoned lands. Of these estates, 250, with a total area of 6,173 hectares, were expropriated.

The total area of lands expropriated was thus 2,382,205 hectares.

All the lands were compulsorily expropriated and became the property of the State. Up to the definite transfer of these lands to the State the old owners remained as managers of the estates in the capacity of *negotiorum gestores*.

*Lands not Subjected to Expropriation.*

Of the large estates, 3.4 per cent. were not affected by the agrarian reform. Of such lands, 58.5 per cent. belonged to the towns, 39.6 per cent. to individuals and 1.9 per cent. to noble institutions.

The lands which remained in the hands of private individuals and were not expropriated were, in particular, those which did not belong to the owners of noble estates, whilst the lands of noble institutions which were not expropriated were those which belonged to philanthropic institutions. Of the lands belonging to the towns none were expropriated.

In Transnaronia and in the districts of Petchori lands belonging to the village communes and to co-operative land associations (*Seelenland*) which were almost without exception small agricultural holdings, were not expropriated and, moreover, on the expropriated lands, 50 dessiatines (54 hectares) were left to each owner to be cultivated by him.

The Law did not lay down any principles for the cultivation of lands to which the reform did not apply.

Of the lands originally intended to be expropriated, the following were restored to the old owners, that is, they were freed from expropriation by the Laws of 26 May 1925, 17 May 1927 and 21 December 1928:

- (1) Lands which had been bought by the last owner before he had acquired a noble estate ;
- (2) Lands detached from another noble estate not belonging to the owner of the lands in question, up to 50 hectares ;
- (3) Settlement lands granted to previous owners under an agrarian law ;
- (4) The lands belonging to churches, parcels of 50 hectares for each parish to supply the needs of persons employed in the church ;
- (5) Sites for buildings in the market towns ;
- (6) Lands sold prior to 15 October 1919 on the basis of preliminary agreements, the effective transfer of which to the name of the purchaser had not yet taken place ;
- (7) All industrial undertakings subject to the industrial tax with the lands which are necessary to them (1).

### *Restrictions and Charges affecting Expropriated Lands.*

The charges on expropriated lands in favour of State institutions and of the autonomous administrations remained in force, while charges in favour of the noble institutions, of the churches and of private individuals were abolished. Servitudes were also abolished where they prevented the utilisation, the division or the acquisition of lands by the State and restrictions on sale and division and rights of redemption and entails were also abolished.

### *The Utilisation of the State Reserve of Lands.*

As we have already said, the principal object of the Agrarian Law was the creation of small holdings in place of large estates. The State reserve of lands can be used either for settlement or the creation of small independent holdings (*Siedlungsstellen*) or for the consolidation of existing small holdings (*Anliegerstellen*). The rented lands of the noble estates have had to remain in the hands of the old tenants, but it has been possible to enlarge them if they were too small or to reduce them if, in relation to the size of the farm, the tenants occupied too much land.

In practice it was particularly settlement holdings that were formed at first, because there were many landless persons and many applicants who were specially privileged, having taken part in the War of Liberation. But latterly importance is attached particularly to the enlargement of small holdings because in certain localities there are many holdings that are too small for the maintenance of a family if the occupier has no possibility of earning something outside his holding and where, in consequence, an enlargement is absolutely necessary in order to attach the small farmer to the land.

In enlarging these small holdings the principle is followed that in each locality, in the commune or in the village, there ought to be holdings of sizes as different as possible, so as mutually to balance one another. According to the possibilities of earning, small auxiliary holdings may be created for agricultural workers (*Heimstätten*) ;

(1) Up to 1 April 1930 the following lands were restored : (a) lands belonging to owners of noble estates, 61 estates containing 4,004.25 hectares ; (b) settlement lands granted to previous owners, 314 estates, 11,078.77 hectares ; (c) lands belonging to the churches, 58 estates, 2,838.40 hectares ; (d) sites for buildings, 6 sites, 4.55 hectares ; (e) lands sold under preliminary agreements, 1,651 estates, 32,911.10 hectares ; (f) industrial enterprises, 31 with 3,087.49 hectares. Total, 2,121 estates, containing 53,924.56 hectares.

if these possibilities are small, some of these small holdings must be enlarged up to the limit necessary for supplying the needs of a family, that is, up to the area sufficient for the maintenance of a family. A subsistence holding (*Ackernahrung*) is generally considered to be about 10 to 12 hectares of cultivable land, or a farm that can be cultivated with the aid of one horse. In all cases where it is possible, the workers' holdings are so enlarged as to permit the keeping of some head of stock (up to 2 to 3 acres). In granting lands for rounding off existing farms account is, of course, taken of the capacity of those who cultivate it, as well as of the position of the holdings themselves, for only such holdings can be enlarged as are situated near to lands belonging to the State reserve of lands.

Besides the creation of new holdings and the enlargement of existing holdings, it was necessary to draw upon the State reserve of lands to enlarge the large towns and market towns and to satisfy the requirements of the autonomous administrations, of the agricultural schools, of the experiment stations, of the co-operative societies and of the industrials undertakings, while taking account always of individual needs.

The large towns, the market towns, and the autonomous administrations of the communes and districts obtain lands from the State reserve of lands gratuitously, while individuals and corporate bodies can only obtain land by paying for it.

#### *Conditions regarding the Selection of Settlers.*

In selecting persons to whom land is to be supplied, it must not be overlooked that applicants must possess qualifications that will enable them to cultivate efficiently the lands that will be assigned to them.

In the distribution of lands preference is given in the following order :

- (a) to tenants of peasant holdings, to small farmers and to agricultural workers on the expropriated lands ;
- (b) to service-men who specially distinguished themselves during the War of Liberation ;
- (c) to service-men disabled in the War of Liberation, who have lost up to 40 per cent. of their working capacity ;
- (d) to the families of service-men who were killed in the War of Liberation ;
- (e) to persons who took part in battles during the War of Liberation.

As we have already noted, the Minister of Agriculture can assign lands to artisans and fishermen outside this order, but the artisans enjoy no other privileges.

Apart from individuals there were co-operative societies which received land, namely :

- (a) co-operative dairies ;
- (b) co-operative societies for the distillation of potato spirit ;
- (c) co-operative societies for the working of peat-bogs ;
- (d) co-operative societies for the joint use of machines ;
- (e) co-operative distributive societies.

Amongst the persons whose livelihood depended on the expropriated lands, those who had been small tenants and agricultural workers obtained the right to have land. If the latter have lost their working capacity, they receive from the State the right to a pension ; no other security is given to them.

The former owners of lands in the parts of the provinces of Pskov and Petersburg annexed to Estonia which were expropriated in pursuance of the agrarian reform could, as we have already noted, retain 50 hectares of their land, these 50

hectares not being expropriated. In those parts of the old provinces of Estonia and Livonia which now form part of the Republic of Estonia, the former owners could obtain land in accordance with the general rule (that is, a settlement holding not more than 50 hectares in extent), in virtue of a decision of the district administration or, by a decision of the Ministry of Agriculture as a recompense for services rendered during the war.

The former owners may dispose of these lands, which are given to them as hereditary property and without any restriction.

The territory of Estonia not being large, no special rules have been fixed regarding the size of settlement holdings in the different parts of the country. The size of new peasant holding depends rather on the quality of the lands, on their position and on other local conditions favouring their working and the marketing of the products. Fifty hectares of cultivable land is regarded as the maximum size in the whole country for a settlement holding. Generally the size of such holding varies between 15 and 25 hectares.

In the different districts the average size of the peasant holdings is as follows :

District	New holdings hectares	Old holdings hectares
Viru (Wierland) . . . . .	16.08	16.68
Järva (Jerwen) . . . . .	17.00	20.21
Harju (Harrien) . . . . .	20.54	23.86
Lääne (Wieck) . . . . .	20.76	26.54
Saare (Oesel) . . . . .	17.36	25.74
Pärnu (Pernau) . . . . .	17.39	29.08
Viljandi (Fellin) . . . . .	15.19	20.64
Tartu (Dorpat) . . . . .	14.13	16.23
Valga (Walk) . . . . .	13.70	25.63
Võru (Werro) . . . . .	12.16	20.23
Petseri (Petschur) . . . . .	12.75	12.75
—	—	—
For the whole country . . . . .	16.41	21.68

The expenses incurred in carrying out the new land organisation are charged to the national budget. In like manner the new settlers received financial help from the State for the equipment of their holdings until 1929, in which year a settlement fund was established.

The expenses hitherto incurred on account of the agrarian reform are as set out in Table I (page 132).

TABLE I. — *Expenses Incurred in Carrying out the Agrarian Reform in the Years 1918 to 1930.*

Years	General administration expenses	Expenses incurred to cover engagements undertaken (payments in respect of expropriated lands, mortgage debt, repayment of rents, compensation for lands expropriated, etc.)	Loans (loans for building granted to settlers, loans for the purchase of stock, loans for assistance during the years when dwelling-houses in the country are being constructed).	Advantages conferred on the settlers (Difference between the market prices of building materials and the prices at which they were sold to settlers)	Total
1918 . . . . .	46.60	—	—	—	46.60
1919 . . . . .	14,953.55	—	—	—	14,953.55
1920 . . . . .	157,127.95	—	—	—	157,127.95
1921 . . . . .	406,635.57	—	—	91,400.65	588,036.22
1922 . . . . .	571,189.81	—	787,055 —	870,310.66	2,228,555.47
1923 . . . . .	684,487.36	13,125.97	2,285,440 —	923,074.13	3,908,127.46
1924 . . . . .	788,982.21	9,217.21	2,150,000 —	1,183,580.31	4,081,779.73
1925 . . . . .	750,657.44	170,521.15	1,450,000 —	892,868.63	3,269,547.22
1926 (first three months) . . . .	182,925.07	20,816.44	374,790 —	614,112.42	1,198,643.93
1926-27 . . . .	829,989.75	217,771.01	2,400,000 —	1,190,134.68	4,637,865.44
1927-28 . . . .	973,059.82	271,975.09	3,230,000 —	1,415,385.58	5,890,420.49
1928-29 . . . .	990,096.13	468,714.91	2,150,000 —	985,599 —	4,594,410.04
1929-30 . . . .	1,482,683.69	—	100,000 —	983,074.18	2,565,757.87
Valuation of forests of settlers by forest officials up to 1930 . . .	112,228 --	—	--	—	112,228 --
Total . . .	7,991,062.95	1,178,141.78	14,927,285 --	9,140,040.24	33,245,529.97

In addition, during the year 1929-30 were spent out of the Settlement Fund: to cover the expenses of engagements undertaken, 626,636.31 crowns; in settlement loans 2,267,562.28 crowns, and in administration expenses, 2,900,362.48 crowns.

*The Payment of Compensation to the Former Owner and the Sale Price of Lands belonging to the State Reserve of Lands.*

The compensation for expropriated lands is paid to the former owners by the State in accordance with the productive capacity of the land. The unit of productive capacity is the "rouble of net return" (*Reinertragsruble*), which dates from the Russian domination. The State pays 7.5 Estonian crowns for the land of which the productive capacity is expressed by one rouble of net return. The former owners receive the compensation in the form of bonds guaranteed by the whole resources of the State. The bonds are paid off by the State in the course of 55 years and bear interest at the rate of 2.66 per cent. The buildings and undertakings serving agricultural purposes regarded as belonging to the land, as well as the live and dead stock, were expropriated at the same time as the land.

For the buildings regarded as belonging to the land no special compensation was paid. For the live stock compensation was paid on the basis of the market prices during the year 1914, whilst for the dead stock and plant set up on the farm the compensation was paid on the basis of the price at which they had been purchased, less a certain percentage for deterioration. Compensation for the stock was paid in cash.

When land was sold for purposes of settlement the price was also calculated according to the productive capacity expressed in roubles of net return. The price of the land of which the productive capacity is one rouble of net return is 11 Estonian

crowns or, in the islands, 9 Estonian crowns, which is equivalent to a price of about 60 crowns for a hectare of cultivable land of average quality.

This price is paid by the purchasers over a period of 55  $\frac{1}{2}$  years for agricultural holdings and of 36 years for non-agricultural holdings (lands serving for commercial or industrial enterprises, etc.). The debt is secured by a first mortgage on the property.

#### *The Right to Place Charges on the New Holdings.*

To make it possible for persons who have received land to acquire stock and to set up the necessary plant, the State sells them stock on credit or grants loans to enable them to purchase it. The maximum limit for the purchase of stock was 500 Estonian crowns. For the construction of buildings, material from the State forests was supplied at fixed prices, for which payment could also be made by instalments. In addition to building material, loans were granted up to 60 per cent. of the value of the buildings, if they were made of wood, and up to 80 per cent. if made of fire-resisting materials.

For works of land improvement loans could be obtained up to 75 per cent. of the proposed works. All the above-mentioned debts on a holding are fused into a single mortgage debt charged on the property and amortisable in 36 years, interest of 2 per cent. being paid on the debt and of  $\frac{1}{2}$  per cent. for the management expenses.

If payments are not made punctually, the sums due are recovered in accordance with the procedure laid down for the collection of the public taxes.

In addition to the above-mentioned charges, the owner of the property has the unlimited right to charge it with other mortgages in the manner prescribed by the civil laws and also to offer the property as a pledge for other loans. Additional mortgages on lands on which there are public mortgages can only be created with the consent of the Agricultural Bank of Estonia whose duty it is to see that the loans made by the State are repaid.

#### *Consolidation of Holdings.*

The boundaries of the small holdings created on the lands which had become the property of the State were made at the same time as the creation of new holdings when the agrarian reform was put into execution. But in Estonia a great part of the land not affected by the agrarian reform was very much split up. The phrase "Lapitalud" or "farms in rags" was used to describe such holdings. This dated from the time when the peasant lands were detached from the noble estates or had been brought about through the division of land when it passed by inheritance. In many villages communal lands were still to be found and in the district of Transnarovia and in the region of Petchori the Russian "mir" system still existed. For these reasons, a special Law on the consolidation of holdings was promulgated in 1926, in order that these lands should be consolidated. The consolidation of lands that had become the property of the State was carried out on the initiative of the public authorities, whilst consolidation carried out under the Law can only be undertaken at the wish of a large number of the parties interested. Consolidation is carried out when it is requested by at least one-third of the interested parties cultivating at least one-third of the lands to be consolidated. It is carried out, in the name of the Minister of Agriculture, by the same officials who carry out the agrarian reform, that is the consolidation commissions.

The consolidation of lands belonging to the State is carried out at the expense of the State. The consolidation of lands belonging to private individuals may be

carried out at the expense of the State by technicians in the service of the State or by private surveyors under the direction and control of a State official. To cover the expenses the owners of private lands are obliged to pay to the State one crown per hectare and to supply the workers necessary to carry out the works done on the lands. In the case of consolidation carried out by private surveyors, the owners of the lands obtain grants from the State Treasury up to 2 crowns per hectare of the lands consolidated in order to pay the surveyors.

In the consolidation of lands an effort is made to make each holding, as far as possible, a single block. In distributing the land it has not been possible to take much account of the buildings, as these are not suitable for small farms. In the small farms account is taken of the buildings in so far as they are capable of being utilised, and in this case sites are left free in the villages for buildings for each landowner.

The new peasant holding created in carrying out the agrarian reform are formed separately and are not grouped in villages (*Streusiedlung*). In the former province of Livonia the same system is found in all the old peasant holdings, whereas in Northern Estonia the dwelling-houses of the old peasant holdings are usually grouped in villages. In the parts of the old provinces of Pskov and Petersburg, where the "mir" system existed, all the dwelling-houses are grouped in villages.

When as a result of the consolidation of lands belonging to the State or to private individuals a landowner goes to establish himself on entirely new land, building materials are supplied to him and loans are granted to him for the construction of new buildings, on the same system and the same conditions as in the case of settlers.

In order to keep intact the properties created in the carrying out of the agrarian reform and by consolidation their boundaries are indicated by landmarks and corresponding maps are drawn. The owners are obliged to maintain the landmarks in a good state of preservation.

### *The Right of Ownership in the New Holdings.*

Lands detached from the State reserve of lands are either sold outright as hereditary property or let on a hereditary lease against the payment of an annual rent.

Both the owner and the leaseholder can sell their rights in the land, or give them away, or bequeath them, either wholly or partially. For the sale of lands mortgaged as security for the repayment of a loan granted by the State or of debts contracted at the time of purchase, the consent of the National Bank of Estonia is necessary.

No one can obtain in ownership or in emphyteusis more than 50 hectares of cultivable lands from the State reserve of lands, whether by purchase, by gift or by inheritance. If more than 50 hectares of land come into the hands of one person, whether in emphyteusis or by a transfer of the ownership, he must dispose of the ownership or the leasehold of that part of the land which exceeds the limit. If this is not done voluntarily, the court enforces the sale.

Beyond these restrictions regarding the maximum size of holding formed out of State lands there are no restrictions in regard to new peasant holdings.

### *Restrictions on the Rights of Ownership in Old Peasant Holdings and Right of Inheritance.*

The restrictions laid down in the Laws of 1859 and 1860 on peasant lands, whereby in the northern part of Estonia (in part of the old province of Livonia) a holding newly formed could not be less than 10 thalers (about 15 hectares) in area, are still

in force. In Northern Estonia a new holding may be subdivided if it contains 3.3 hectares of arable land with a corresponding amount of meadow and pasture land. It is intended to amend this provision in accordance with the requirements of the present time and to extend to all agricultural holdings, including holdings formed on State lands, the restrictions on subdivision, in order to prevent that the land of the country should be too much split up.

The right of inheritance of land is regulated by the general civil code, except in so far as it is subject to the restrictions laid down regarding the maximum area of peasant holdings and in regard to the distribution amongst the heirs of lands previously acquired.

In practice, both forms of inheritance usual in Western Europe are found in Estonia, that is, division amongst the heirs and succession without division (*Ancubing*), this latter being found particularly in Southern Estonia in the richer regions, whilst division amongst the heirs is usual in the more easterly regions.

(*To be continued*).

## CO-OPERATION

### Stages in the Development of Agricultural Co-operation in Argentina.

#### I. -- THE THREE PERIODS OF ARGENTINE CO-OPERATIVE LEGISLATION.

In the history of the co-operative movement in Argentina three periods of co-operative legislation may be distinguished.

The first period is from 1884, the year in which the first co-operative society was formed, to 1906. In this period co-operation existed precariously under the regime of the ordinary commercial law ; it was recognised by the Commercial Code, but received no encouragement of any sort from the National Government nor the Provincial Governments, being regarded as a voluntary initiative of private individuals.

The second period begins in 1906, in which year some provinces began to issue administrative and fiscal legislation in favour of the development of co-operation, and ends in 1926, when the National legislature passed a special law in favour of co-operative societies in general and of agricultural co-operative societies in particular. Henceforth co-operative legislation develops in Argentina as a separate branch of law distinct from the Commercial Code.

The third and present period is characterized by the development of National and provincial legislation in favour of various kinds of co-operative society, the laws passed being essentially public laws, and from the economic point of view, showing marked preference for the co-operative organization of the producers for the collective sale of their products.

We will briefly illustrate these three periods.

*First Period.* — From 1884 to 1906 the development of the co-operative movement was so slow as to make it seem doubtful if it were capable of any great development.



The central and provincial governments thought they were sufficiently encouraging and safeguarding the development of urban and rural co-operation by recognising co-operative societies in the Commercial Code. In this they were following the example of the majority of the European countries, which did not feel the need of special legislation.

The first Commercial Code was that of 1859, promulgated by the Province of Buenos Aires; in 1862 it was declared by Congress to be a national code. It was replaced in 1889 by the new Commercial Code, which is still in force.

According to Article 392 of this Code, co-operative societies had to adopt, for their legal constitution, one or other of the forms of company admitted by the Code. To the name of the society, however, had to be added the words "co-operative society, limited" or "unlimited" according to the form of society adopted.

By Article 394 it was laid down that "the shares shall always be held by name and each member shall have only one vote, however many shares he may possess".

It may be noted that amongst the forms of commercial company contemplated by the Code of 1889 which the co-operative societies might have adopted there was (besides the company with unlimited liability, the company containing members with unlimited liability and members with limited liability and the limited liability company) the capital and industry company composed of members who contributed goods and capital and of working members who contributed their technical and industrial capacity; this form would have been preferable for certain kinds of co-operative society.

However the fact is that, under the regime of the ordinary commercial law, the Argentine agricultural co-operative societies could not of themselves, unaided by the State, overcome the great and numerous difficulties of the movement initiated by them in 1884.

In 1914, when the International Institute of Agriculture published the second volume of "Monographs on Co-operation in Various Countries", containing a study of the agricultural co-operative movement in Argentina, it seemed that the movement was still in its initial stage and that it was uncertain whether it would develop, owing to the unfavourable rural conditions and to the slowness with which the idea of co-operation was taking root in the country.

Argentine writers themselves noted that rural conditions, except in the so-called grain-growing region, which comprises the provinces of Buenos Aires, Santa Fé, Cordoba and Entre Rios, were by no means propitious and, in part, definitely unfavourable to the development of co-operation, as the agricultural population, being scattered, of heterogeneous origin, unstable, dominated by the individualistic spirit of the large landowners and of the immigrant settlers, and spread over a vast territory, with inadequate means of communication and of transport, had need of considerable capital for the exploitation and colonisation of the large estates. On the other hand this population was also needful of quick returns in order to furnish the capital required rather than desirous of making a methodical and constant effort to organise themselves with a view to increasing production and reducing costs, and therefore could not feel sufficiently and generally the need of institutions based on mutual confidence and of stable relations of rural economy and of agricultural law.

This situation must be borne in mind in considering the first statistics of agricultural co-operative societies, collected by the Ministry of Agriculture in 1912-13.

There existed at that time 34 agricultural co-operative societies, comprising 22 which combined various objects (consumption, purchase, credit, colonization, irrigation, stockbreeding, etc.); 8 societies for mutual insurance against hail; 1 society for insurance against fire, and 3 societies for collective irrigation.

The 22 mixed societies had a membership of only 5,494, and an effective capital (paid-up capital and reserves) of only 844,230 pesos.

The inadequacy of this organisation was apparent and was fully recognized by everyone.

In the Provinces of Buenos Aires and of Entre Rios a co-operative movement had already arisen primarily directed towards obtaining from the central and provincial legislatures a decisive intervention which would supplement the specific action of the Section of Agricultural Mutual Insurance and Co-operation founded by the Ministry of Agriculture.

A meeting of co-operators, held in June 1913, at Lucas Gonzales, on the initiative of the Regional Agricultural Society of Entre Rios, had in fact requested the Argentine Congress to pass a special law in favour of co-operative organisations. Three bills had already been introduced, but had failed to pass: one brought in by Senator Uriburu in 1905; one by Señor Lobes, then Minister of Agriculture, in 1911, and one by Señor Mujica, when Minister of Agriculture, in 1912.

The co-operators, at that time, complained also of the want of a system of direct agricultural credit, either for the provision of working capital or for improvements, which should be accessible to the small occupying owners and to the share-tenants, who were then compelled both in regard to sales and to loans to submit to the usurious speculation of middlemen. This situation rendered difficult the development of small occupying ownership, an institution which was still wanting but was recognized as necessary to the consolidation of the rural economy of the country and to the progress of co-operation amongst the producers.

*Second Period.* — What could not then be obtained from the central legislature, for want of a favourable public opinion was obtained here and there, hesitatingly, almost by way of propaganda, by the co-operators from various provincial legislatures.

In 1906 a law of the Province of Buenos Aires granted exemption from the tax on capital to co-operative societies having a capital of 1,000 to 7,000 pesos. The declared object of this law was to facilitate, as was done in some European countries and in the United States, the formation of co-operative societies, particularly societies for consumption, production and credit.

In 1915 the same Province granted special fiscal privileges to co-operative dairies. In 1913 the Province of Cordoba voted a law in favour of the Co-operative Society of Rio Cuarto, formed with the aid of the State. By a decree of the Province of Entre Rios, issued in 1919, privileges were granted to a poultry keeping society.

The Province of Mendoza, wishing to promote the formation of vine-growers' co-operative societies, issued a law in 1919 compelling sellers of grapes and wine to belong to a vine-growing and wine-making co-operative society to obtain exemption from the licence tax on wine produced in the province.

These provincial legislative provisions, combined with the political movement in favour of co-operation initiated by Uriburu in 1905 and Lahitte in 1917 and the movement brought about by some 12 bills introduced between 1905 and 1919 into the National Parliament and some provincial legislatures in favour of genuine co-operative societies and with a view to defending their special character, served to form a public opinion favourable to co-operation and to prepare the advent of the third and present period, characterised by the direct and decisive intervention of the State.

But this result was also largely brought about by the steadily growing necessity of organising the producers, and the gradual progress of the conception of co-operative and agricultural law, national and provincial, arising out of the constant strug-

gle for the shaping of agricultural law and the defence of the interests of the agricultural classes between the *Sociedad Rural* and *Federación Agraria Argentina*.

The *Sociedad Rural* is the organisation of the large landowners. It has about 8,000 members, owners and stockbreeders, who represent about 80 per cent. of the cultivated land. In opposition to this powerful society the *Federación Agraria Argentina* was formed in 1912; it is composed of the real landworkers, and in 18 years of existence it has acquired a membership of more than 30,000, distributed amongst mutual associations, largely syndical and co-operative in character.

One-eighth of the cultivators, heads of families, for the most part tenant-farmers spread over 12 provinces, are members of the federation, which represents one-third of the area sown to wheat in the country.

It controls 58 "federated co-operative societies" and carries on mutual insurance against hail, fire and accidents during employment. Its total business is more than 12 million pesos a year. Its policy is directed towards favouring credit for colonization and ordinary agricultural credit and organising depôts and warehouses for the storing and transport of the crops under the control of its federations. It aims at entering into relations with European federations with a view to an import and export trade without intermediaries.

The various struggles initiated by this powerful federation, that is, the struggle for its land programmes, for agricultural law, for credit for the formation of small occupying ownership accompanied by co-operation, for the appointment on co-operative lines of agricultural experts, for linking co-operatively the country and the town, for the exemption from land tax of lands on which collective agreements have been stipulated by the owners without intermediaries; and the struggles for the solution of other problems by collective methods, have always proved fruitful for the progress of legislation relating to rural and agricultural co-operation and to credit. They have served to bring to a head, during the past 20 years, the primary and most important question of a co-operative régime distinct from that of the commercial companies.

The information and observations set out above may serve as a commentary on the statistics of agricultural co-operation during the second period, that is, between 1906 and 1926, since, without them, it would not be possible completely to understand the very remarkable increase in the number and strength of the co-operative societies, since the obstacles which during the first period made the future of co-operation in Argentina seem so doubtful had not been removed.

For these intermediate statistics we refer the reader to the official tables contained in the report by Dr. Domingo Boréa in 1923 (1).

From these tables it will here suffice to note that the agricultural co-operative societies, which in 1912-13 numbered only 34, of which 22 were of the mixed type, in 1920-21 numbered 173, including 124 mixed societies, 12 rural banks with unlimited liability of the Raiffeisen type, 13 mutual insurance associations, the remainder being specialized societies each having a single object.

It was a modest result, as the author of the report pointed out, but significant on account of the appearance of certain of the specialized societies, the formation of which, in the first period, was rendered difficult by the adverse conditions.

These societies were three grain mills; one society for the cultivation of fruit-trees; one for poultry-breeding; two for tobacco-growing; one for cotton-growing; and two dairy societies.

(1) *International Review of Agricultural Economics*, Rome, International Institute of Agriculture.

On the other hand it must be noted that association in connection with arable farming and stockbreeding and kindred industries, which could not then develop on co-operative lines, developed with notable success under the ordinary commercial law, many limited liability companies being formed for agriculture, stockbreeding, and cold storage, as well as companies for dairying and the manufacture of milk products, sugar factories, companies for vine-growing and wine-making, forestry companies, etc.

The 85 mixed co-operative societies had in 1920-21 a membership of 17,935, with an effective capital of 5,760,160 *pesos*. All the societies, numbering 128, taken together had a membership of 32,209 and an effective capital of 9,232,380 *pesos* with profits amounting to 798,522 *pesos*, a figure which is in itself a notable one, but becomes even more appreciable if we take account of the indirect benefits to the members resulting from the operations of the societies and from their functions of regulating prices, of making trading more honest, and of reducing the number of dealers — benefits which were shared by the producers and consumers who had not become members.

The most noteworthy progress made in the second period of the co-operative movement in Argentina was in the creation of various federations of co-operative societies promoted by the Rural Economy and Statistics Branch of the Department of Agriculture, in collaboration with the *Museo Social Argentino*, which had already organised two co-operative congresses for the purpose.

The Rural Economy and Statistics Branch had, and still has, as its outstanding function, to promote and encourage every kind of agricultural co-operative society and agricultural mutual insurance society; to give instructions and advice; to supply model rules; to give lectures and hold meetings for the formation of new societies; to follow the co-operative movement and the mutual insurance movement throughout the world; and, lastly, to co-ordinate the action of the central and provincial governments in order to give a precise direction to the movement to the benefit of the national economy.

Hence the desirability, or economic and legal necessity of organising co-operation on federal lines, while leaving the separate federated societies independent and self-governing. The only exception to this rule is that of the Argentine Agricultural Federation of Rosario (Santa Fé), the societies affiliated to which must follow the instructions of the central body, even in matters of administration and management.

To understand the statistics and the real significance of the movement in the second period account must accordingly be taken of the working of the four regional federations — those of Rosario, Buenos Aires, Entre Rios, and Bahia Blanca — besides that of the Federation of Rural Banks.

As early as 1923 Dr. Borea envisaged the formation of a general confederation of these regional federations, which, according to resolutions passed by the co-operative congresses, should one day enter into relations with the corresponding European confederations, to organise the international exchange of agricultural produce without the need of intermediaries.

*Third Period.* — The third period of the Argentine co-operative movement begins with the Law of 20 December 1926, No. 11,388, which governs the present development of the various kinds of co-operative undertakings, old and new.

Adequately to illustrate this law and to estimate its influence we must give a short account of its origin, and comment briefly upon it. The law is the result of 20 years of efforts, resolutions, studies of comparative legislation, and careful drafting.

## II. — THE FIRST ARGENTINE CO-OPERATIVE CONGRESS.

To illustrate the present legislative basis of co-operation in Argentina and to throw light on its special characteristics, as they affect the rural economy of the country, and on the relation between agricultural and co-operative legislation, we must note the resolutions of the First Argentine Co-operative Congress, held in Buenos Aires in 1919 under the auspices of the *Museo Social Argentino* the fruitful intervention of which was prepared and assisted by the Section of Mutual Insurance and Co-operation of the Rural Economy and Statistics Branch of the Department of Agriculture.

This Congress concentrated its attention on legislative reform, and presented to the Government the draft of a general law on agricultural co-operative societies; thus the existing law finds its best and most authoritative commentary in the reports of the congress.

In order to illustrate more particularly the legal and economic conception of co-operation embodied in the law, we here give a summary of some of the resolutions which were carried into effect and foreshadowed the coming development of agricultural co-operation in Argentina.

Considering that it was indispensable and urgently necessary that there should be a special body of law relating to co-operative undertakings, in place of the Commercial Code, which was absolutely inadequate in this respect; affirming the necessity of embodying in a general law the special characteristics of co-operative societies, and defining the object of legislative intervention to be that of facilitating the legal constitution and normal working of the various kinds of society necessary for the development of the national economy, laying down special rules for the different kinds and above all for agricultural co-operative societies, the congress proposed:

1. General principles concerning the contents of the rules of co-operative societies, of whatever kind they might be.
2. General principles for societies with limited liability.
3. General principles for societies with unlimited liability.
4. A special law on the characteristics and distinctive objects and privileges of agricultural co-operative societies with several objects (the so-called "mixed" societies) or with a single object.
5. Principles on which credit should be given to co-operative agricultural societies by the National Bank or by the Mortgage Bank.
6. Special principles regarding the characteristics and the protection of co-operative societies for consumption, credit and insurance.
7. A general programme of propaganda in favour of co-operation, to be entrusted to a permanent committee of nine members, with the president of the *Museo Social Argentino* as chairman.
8. The draft of a law on vocational unions.

Regarding the economic and legal principle out of which the co-operative movement arises, the congress expressed the wish that if possible, in co-operative societies which were exclusively for consumption no interest should be paid on the capital, that the central and provincial legislatures should follow the principle of allowing the most ample liberty to all the effective energies of the nation to promote, organise and maintain all forms of co-operation, from distributive societies to building societies, in order to realise their moral and economic aims, including the national and international exchange of products, and the teaching of the prin-

ciples of mutual insurance, of co-operation, of thrift in the schools and throughout the country by means of co-operative libraries.

With regard to agricultural co-operation, the congress, asserting that co-operative societies for consumption, credit and insurance and their various economic and legal forms are indispensable for the progress and well-being of the farmers and should be combined in central co-operative societies in order to procure greater services and wider benefits, urged :

1. That agricultural co-operative societies should abandon the old forms by which they were confused with limited liability companies.

2. That the central and provincial governments should directly promote, by loans in money or in kind, the organisation of the largest possible number of co-operative institutions for production and insurance, for grain warehouses, for dairying and other industries for the manipulation of agricultural produce, and should establish inspectorates to organise, to group and to protect the various kinds of co-operative societies and their federations.

It may be recalled that the special resolution urging the intervention of the legislatures and the governments with a view to propaganda and protection, dates back to a Presidential Message of 1911 to the Argentine Congress. In this message it was said that "in new countries like Argentina, where the population is scattered and is principally composed of elements supplied by immigration, the legislative and administrative problem of agricultural co-operation and agricultural credit takes a different form from that which it takes in European countries, since in the new countries there are too few localities in which the farmers can of their own initiative form co-operative societies, supply them with capital and give them stability. Hence the necessity of promoting their formation, beginning by establishing a central organisation which, through its branches, can help to form the various kinds of co-operative societies required."

On this programme was based the proposal put forward in 1911 by Señor Lobos, then Minister of Agriculture, to form a national Agricultural Bank, with a contribution of the State towards the initial capital for the purpose of organising colonists and producers.

In other subsequent proposals it had been recognised that in Argentina the intervention of the legislature and of the government in favour of co-operation was necessary, but as we have already noted, they did not get beyond the stage of mere proposals for reform.

From 1911 to 1919, the wish was repeatedly expressed and illustrated by the advocates of rural co-operation that this reform should be carried out. In particular the doctrine of the Argentine students of co-operative law was based on the following thesis :

The problem of legislation on the subject of co-operation must be formulated and solved solely from the point of view of the actual conditions and of the existing régime (economic, political, social and financial) of each country, and particularly in relation to its special agricultural conditions. Hence the necessity of distinguishing the fundamental and general principles from the principles derived from conditions in the place of application, and of seeing how national experience has formed the principles of policy in relation to co-operation and co-operative law, adapting them to the special conditions of the country and to practical requirements.

It certainly cannot be denied that the objects of agricultural co-operation and the forms it can take are different in countries predominantly industrial from what they are in countries predominantly agricultural.

The principles of mutual insurance and collective liability are readily accepted

morally and economically, in densely populated countries, but not in heterogeneous populations. It is for this reason that mixed co-operation having various aims has seemed in Argentina to be the form of co-operation best adapted to the complex purpose of the moral and economic improvement of the rural population.

*Institutions based on the unlimited joint and several liability of the members are excellent in theory but cannot be formed in face of differences of race, low density of rural population, and technical and economic methods of farming which are extensive and hazardous. In such conditions what is necessary in the first instance is above all co-operative societies with limited liability formed by stockbreeders with accessory agricultural objects to free the producers of meat from the dealers in the fairs and urban markets and also other co-operative organisations for production and sale.*

In conclusion, the general principles laid down by students of co-operative law and by co-operative congresses are as follows :

1. The principal object of co-operative societies is to abolish speculative profit, but not capital, the profits being distributed to those who have contributed towards making them and a mere remuneration being assured to the capital.

2. In true co-operative societies each member must have one vote, whatever may be the capital contribution on which he will receive interest.

Such is the historic background which must be kept in view in estimating the importance of the great legislative reform of 1926, the fruit of long studies of comparative legislation and of careful drafting.

The most recent development of co-operation in Argentina, rendered possible by the efficacy of the reform of 1926, may be seen from the following information and statistics, published by the *Boletín mensual* of the Rural Economy and Statistics Branch of the Ministry of Agriculture, and reproduced with comments by the *Boletín del Museo Social Argentino* of January-March 1931. In the commercial year 1928-29 the rural co-operative societies already numbered 180. Of these 143 were actually working. They contained 25,098 members, of which 16,588 were members of mixed co-operative societies and 6,577 of rural insurance societies while the remainder belonged to agricultural co-operative societies of other types.

The capital of these societies was 6,666,604 pesos, of which 4,432,202 belonged to mixed societies. The total business done amounted to 67,648,161 pesos including business to the amount of 64,503,109 pesos done by the mixed societies.

Amongst the specialised societies mention may be made of three societies for the sale of fruit and vegetables and 33 co-operative *tamberos* for sheltering livestock.

The Bulletin above cited remarks that the actual volume of co-operative business is larger than is indicated by the figures quoted, as there are societies which failed to furnish returns in time for inclusion in the statistics.

Many of the Argentine co-operative societies are affiliated to one of two large organisations. One is the *Federación Agraria Argentina*, which embraces 20 societies with about 2,000 members ; the other, the *Asociación de las Cooperativas Argentinas*, to which are affiliated 57 societies, with about 9,000 members and a total capital of 2,133,924 pesos.

### III. — THE PRESENT LEGAL BASIS.

The fundamental law of 20 December 1926, No. 11,388, occupies in comparative co-operative legislation an exceptionally important position on account of its characteristic structure.

The Argentine legislators believe that they have solved the old question of the characteristic principle of co-operation, the existence of which is doubted by many European economists and jurists. Instead of fixing upon a single principle, such as mutuality, or sharing of profits, or variability of the capital, or prohibition to issue bonds, or any other special distinctive characteristics, held to be paramount in other legislation, they have above all established the legislative independence of co-operation, declaring that "co-operative societies are regulated by the provisions of the present law and only those societies may be called co-operative which, besides bearing the name, possess all the 22 characteristics, or positive and negative requisites specifically enumerated in Article 2." So that besides bearing the name of co-operative society, a co-operative society must combine in itself all these 22 characteristics, legal and economic at the same time, which distinguish the Argentine co-operative society from companies regulated by the Commercial Code.

This legislative and scientific innovation being little known up to the present, it is worth while to reproduce the list of characteristics :

1. The name of the co-operative society shall be accompanied by the word "Limited".
2. No limit shall be fixed by the rules to the number of members, nor to the number of shares, nor to the amount of the capital, nor to the duration of the society.
3. The shares shall be held by name and shall be indivisible and transferable only with the consent of the committee of management of the societies in accordance with conditions laid down by the rules, and all the shares, once they have been fully paid up, shall be of the same value.
4. Every member shall have only one vote, whatever may be the number of his shares.
5. The rules shall lay down the conditions of admission, suspension, withdrawal and expulsion of members. The members shall have the right to withdraw from the society at such times as may be fixed by the rules, and in the absence of any provision on this point, at the end of any business year, on giving ten days' notice.
6. When the rules prescribe an entrance fee this shall not be increased by way of compensation for the reserve fund accumulated.
7. Members leaving the society, for whatever reason, shall have no individual claim on the reserve fund.
8. In the event of the liquidation of the society, the reserve fund shall be handed to the National or Provincial Treasury, according to the place in which the head office is situated, to be utilized for the economic education of the people.
9. No advantages or privileges of any kind shall be conferred on the promoters, founders or managers, nor shall preference be given to any capital.
10. No remuneration, by way of fee or commission, nor in any other form, shall be given to those who introduce new members or find purchasers for shares.
11. Societies shall not include amongst their objects, either principal or accessory, propaganda in favour of political or religious ideas, nor of nationalities nor of particular regions ; nor shall they impose, as a condition of being admitted, any pledge on members binding them to religious organisations, political parties, or national or regional groups.
12. Credit shall not be allowed on articles purchased for consumption.
13. The committee of management, without expelling the members, may at any time order those members who hold the largest number of shares to withdraw capital. If all members have an equal number of shares the withdrawal of capital shall be made proportionately.



15. When the societies make cash loans to members, they shall not take, by way of premium or under any other denomination, any sum which would reduce the actual amount lent below the nominal amount of the loan, except a discount in lieu of the payment of interest, if it is so agreed. And the interest on loans shall not exceed 1 per cent. above the rate actually charged by official banks in similar operations; nor shall it be increased during the period of the loan. Loans may be paid off by the borrower at any moment, without any interest charge.

16. Out of the profits realised and available interest at a rate not more than one per cent. above the interest allowed by the National Bank in giving discounts may be paid on the capital employed in operations other than credit.

17. Of the profits realised and available at the end of each commercial year, at least 5 per cent. shall be allocated to the reserve fund, and 90 per cent. shall be distributed amongst the members as follows: (a) in co-operative distributive societies, or distributive sections of co-operative societies, in proportion to the actual purchases of each member; (b) in co-operative productive societies in proportion to the labour done by each; (c) in co-operative societies, or sections of co-operative societies, for the purchase of requisites, for labour or for the transformation and sale of products, in proportion to the amount of the business done by each member with the society; (d) in co-operative credit societies, or credit sections of co-operative societies, in proportion to the capital.

18. The balance-sheets and reports of the Committee of Management shall be prepared annually and submitted annually to the general meeting, which shall be held within the three months following the close of the business year.

19. General meetings shall be convened with at least eight days' notice, given in such form as each society shall lay down in its rules, and shall be held, whatever number of members may be present, an hour after the time fixed in the notice convening them unless previously half the number of members plus one have assembled.

20. The rules may prohibit voting by proxy or may authorise it. If they authorise it, proxies can only be held by a member and no member shall hold more than two proxies.

21. When the number of members exceeds 10,000 the general meeting shall take the form of a meeting of delegates elected at electoral meetings of sections or of districts in accordance with methods laid down by the rules. The same procedure may be adopted for the representation of members who reside in localities far from the place where the general meeting is held.

22. For the auditing of the society's accounts the general meetings shall elect an auditor and a substitute auditor. It may also elect for the supervision of the working of the society a council of inspection containing twice as many members as the Committee of Management and auxiliary to it.

Having laid down these requisites and characteristics, the law regulates amalgamations, federations, extension of objects, the methods of formation, recognition and authorization, the capacity of women and minors, the application of the new principles to previously existing societies and penalties for the use of the word "co-operative" by societies irregularly constituted.

Amongst the other provisions, the most important, because it implies the entry of co-operative law into the domain of public law, is Article 10, which lays down that "the Minister of Agriculture shall exercise public supervision over the co-operative societies, shall revise and certify the balance sheets submitted by them, and shall establish a service of information for the benefit of the co-operative movement of the Republic".

Article 12 is also important. It lays down that the law shall be considered as being incorporated, as a special chapter, in the Commercial Code, and that Articles 392 to 394 of the Code and any other article inconsistent with the law shall be repealed, while the provisions relating to limited liability companies, in so far as they are not inconsistent with the law, shall remain applicable, as subsidiary to the law.

The Argentine co-operative law, while inserted in the Commercial Code, has thus become a branch of public commercial law on account of its special characteristics, of its independent principles and of the decisive intervention of the Government, more than merely to aid and to safeguard them, to which co-operative institutions are subjected.

A proof of this may be found in the fact that the Rural Economy and Statistics Branch of the Ministry of Agriculture distributes model rules for co-operative societies, in which is inserted the general provision that "the Chairman of the Committee of Management is authorised (in applying for the inscription of the society in the Inspection and Encouragement Register of Co-operative Societies kept by the Ministry of Agriculture) to accept the modifications of form in the rules which the authorities may deem necessary".

The Ministry of Agriculture also distributes model rules for federations of co-operative societies in which the same authorisation is given in connection with obtaining incorporation at the hands of the provincial government of the territory in which the federation is formed.

Lastly it must again be noted that the legal position of the co-operative societies is further affected by supplementary provisions in their favour, especially in regard to taxation, freely voted by the provincial legislatures. Amongst these may be mentioned the Law of 4 July 1922 on exemption from taxation in favour of the co-operative societies of the province of Buenos Aires, supplemented by the Decree of 2 August 1922 containing regulations for the application of the law, by the Decree of 28 July 1927 on the inspection of co-operative societies, and by the Decree of 20 January 1929 which contains provincial regulations for the application of the National Law of 20 December 1926; the Decree of 27 September 1927 of the province of Santa Fé; the Law on stamp duty and the Decrees of 16 August 1927 and 14 November of the same year of the province of Cordoba in favour of co-operative development, the Law on exemption from taxation of 3 November 1919 of the province of Entre Rios; and other similar provisions issued by other provinces, mostly in the year 1928. Even some municipalities confer fiscal privileges on co-operative societies.

This legislation is completed by provisions regarding agricultural credit.

The Decree of 2 January 1929 regulates the loans that may be granted by the National Bank and the Mortgage Bank to co-operative societies in accordance with the spirit and purpose of the Law of 20 October 1926, which authorized in advance such loans in connection with the objects of the general law on co-operation, then about to be passed.

To sum up, Argentina possesses a body of laws in favour of co-operation, with an implicit, but obvious, tendency to favour the development of rural co-operative societies, notably societies for production and for sale, based on this principle of policy in regard to co-operative law: the general law on the legal status of co-operative societies must precede and determine the regional laws conferring special facilitations and favours with a view to watching over, safeguarding and consolidating the federal co-operative organisation of productive forces.

#### IV. — SPECIAL CO-OPERATIVE INSTITUTIONS.

Amongst the Argentine institutions which must be specially mentioned here on account of their importance are : (1) The Argentine Grain Pool, founded by the Association of Argentine Co-operative Societies ; (2) the co-operative dairies.

##### 1. — *The Argentine Grain Pool.*

The Argentine Pool proposes to develop to the utmost extent the construction of elevators in all the grain-growing region, taking as model the organisation of the Canadian elevators. The Government intends to favour this organisation, if necessary, by special agreements with the Canadian organisation, which has submitted a proposal for the construction of 660 elevators.

The programme of the Association of Argentine Co-operative Societies regarding the working of the Pool includes :

(a) the establishment of an office for direct export to the consumers' co-operative societies of the European markets, with the object of eliminating middlemen ;

(b) the establishment of a Bank in connection with the Pool for the purpose of financing the grain-growers' co-operative societies affiliated to it, as well as the colonisation of undeveloped arable lands to be rented to members.

(c) the establishment of agricultural vocational and experimental schools in the interest of the members.

The Association of Argentine Co-operative Societies, the Argentine Rural Society and other organisations of producers and merchants, including the Grain Exchange, are unanimous in submitting to the Ministry of Agriculture resolutions and proposals concerning the better solution of the problem of marketing, resistance to the fall in prices, the development of collective agreements and other methods of commercialising and consolidating agriculture, in defence of the general interest.

##### 2. — *The Confederation of Co-operative Dairies.*

In 1929 the Minister of Agriculture approved the rules of the General Confederation of Milk-producers' Co-operative Societies, submitted by the presidents and delegates of these societies.

The Confederation has adopted for its constitution the form of a co-operative productive society, under the provisions of the general law of 1926 on the legal status of co-operative societies of which we have already written at some length.

The principal object of the Confederation is to promote the formation of regional federations of milk-producers' societies and to combine with practical work on behalf of these societies a great moral effort " ceaselessly to inculcate the spirit of union and the respect for ideas and for persons amongst milk-producers ".

The general management is entrusted to a committee composed of six members elected by the General Meeting of delegates, together with an auditor and a substitute auditor.

The annual profits are devoted first to the payment on the shares which form the capital of interest at a rate not more than one per cent above that allowed by the National Bank in discounting. Any surplus is allocated as follows : 5 per cent.

to the legal reserve fund ; 3 per cent. as the General Meeting may decide on the proposal of the Committee, and the remainder to be returned as a bonus to the affiliated co-operative societies.

The objects of this General Confederation are :

1. Manipulation of the produce of the affiliated co-operative societies by transforming it into manufactured products, the necessary establishments being set up for the hygienic treatment of milk and its derivatives, and by storing any raw material supplied by the undertakings concerned.

2. Direct sale of the products and their derivatives to the consumer, both in the country and abroad, the necessary establishments and organisations for the purpose being set up.

3. Marketing of products by means of the formation of a market for wholesale and retail sale and the organisation of joint sales, both in the country and abroad.

4. Co-operative credit, to be organised by obtaining facilities from the State and sufficient credit for the required industrial and commercial development of the milk-producers' co-operative societies, of the regional federations and of the confederation itself, in order fully to carry out the plan laid down in the rules of the Confederation.

5. The perfecting of the co-operative societies, by the supervision of the milk-producers' co-operative societies and of their regional federations, with a view to assuring their improvement and gradual perfecting.

6. The perfecting of animal husbandry as applied to dairy stock and of the agricultural practices connected therewith.

7. Giving security to the producer by buying or renting blocks of land capable of being divided up and sub-let or sold to members of the affiliated co-operative societies.

8. Transport of products, action being taken with a view to improving and perfecting railway transport of milk and of its derivatives.

9. Collective purchases on behalf of the members, that is, the affiliated co-operative societies and the regional federations, of machines, implements, feeding-stuffs, live stock, with the advantages resulting from co-operation for purchase.

10. The perfecting of production from a hygienic point of view, every possible action being taken to secure compulsory hygienic treatment of milk for consumption, cream, butter, etc.

11. Development of insurance by organising and carrying out, amongst those who dedicate themselves to the milk industry, life insurance, insurance against accidents during work, fire insurance, hail insurance, etc.

12. Establishment of official information and publicity service required for the precise knowledge of the markets, the organisation of experiments and the diffusion of instructions, for the use of the affiliated co-operative societies and of their members.

13. Development of bonds between the producers with a view to fostering moral, economic and industrial solidarity amongst them, as well as to obtain the amicable settlement of any internal dispute that may arise in the affiliated co-operative societies or in the regional federations.

14. Development of co-operation by action supplementary to that of the State with a view to forming new co-operative societies and to extending the application of co-operation to the national dairy industry.

In general, the object of the Confederation is the technical and economic defence of this industry, particularly with a view to the conquest of the markets in competition with the great federal organisations of co-operative dairies existing in other

countries and, in accordance with the resolution of the World Dairy Congresses, promoted by the International Federation of Co-operative Dairies formed at Brussels in 1903, to give a universal and increasing impetus to the technical and scientific progress of the dairy industry.

The Confederation is perfectly informed of the development in the countries agriculturally most advanced, that is, in which the organisation of the producers has made most progress, of sanitary and economic policy in regard to milk and of the desirability for essentially agricultural countries rich in pasturelands to base their rural economy on the dairy industry, to promote hygienic methods of production, to stimulate the consumption of dairy products, to intensify the cultivation of forage plants and to encourage the increase of the dairy herds.

To indicate the importance and the results of the work of the federal organisation of Argentine producers, we may here give some data, taken from the statistics of Argentina compiled by the Ministry of Agriculture, on the development of the milk industry. While in 1914 the production of butter was 93,070 quintals and of cheese 54,720 quintals and of casein 47,180 quintals, making a total of 194,970 quintals, in 1927 the production of butter was 291,770 quintals, of cheese 161,750 quintals and of casein 133,800 quintals making a total of 587,320 quintals.

The production of butter reached its highest figure in 1923, when it was 409,470 quintals; the production of cheese was highest in 1920 when it was 247,440 quintals and the production of casein was highest in 1926, when it was 198,640 quintals. In 1928 the production of butter was 304,526 quintals, in 1929 it was 278,843 quintals and in 1930 it was 335,686 quintals.

Of the total quantity of milk employed in this industry 28 per cent. was produced in the province of Buenos Aires and 18 per cent. in that of Santa Fé. This serves to indicate the possible future development of the production, if we take account of the fact that there are in Argentina 27,665,000 head of cattle, of which one-third is in the province of Buenos Aires and that, at the time of the census taken in 1920 there were 2,751,654 dairy cattle. It may be added that the yield of milk per cow is still much lower than in the competing countries, such as Canada, Australia and the United States, but that, in view of the progress of stockbreeding and the dairy industry, now being fostered, particularly by the Confederation, it seems likely that the yield per cow will eventually reach the same level as in those countries.

In fact, Argentine agricultural experts have already demonstrated the economic advantages of improving the dairy cows by selection, and of the scientific perfecting of the industry which is possible in places where there is sufficient density of rural population and where it will be easy to increase it, as the development of the dairy industry will help to arrest the excessive exodus from the country to the towns.

E. FERRARI.

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[According to the author this work should form an introduction to the study of agricultural economy. In reality the scope of the book goes beyond the merely instructive and represents a far reaching and penetrating enquiry, following the most modern Italian and other works existing on the subject. It is characterised by a close adherence to actual economic reality and frequent references to the concrete situation prevailing in Italy and other countries, which considerably increase its value and interest. At the outset the author takes into account the fact that the economic questions relating to the utilisation of the different factors of production have already been admirably handled in the classic Italian writers. Hence he does no more than outline these problems, dwelling on the contrary on the subjects which have hitherto received less attention and in particular to the organisation of the farming enterprise and its relations to the market. There can be no doubt that in the present phase of economic confusion with all the consequences of monetary changes on the working of the farm and its returns, the study of the organisation of the farm considered in itself and in relation to market requirements is essential. The merit of the author lies in having understood this and having directed investigations mainly towards the different aspects of the marketing problem. He advises farmers to follow with more attention market fluctuations and prices as affording the soundest guide to activity. The disorder at present prevailing in the sphere of production and the want of equilibrium resulting between production and consumption are in effect largely the result of the small degree of interest hitherto taken by farmers in the intermediate stages through which products pass on leaving the farm. The well known effects of the price crisis, the consequences of which are borne by the agriculturists without any corresponding advantage to consumers, are actually due to faulty distribution, a process rendered extraordinarily difficult by the speculative activity of intermediaries. Hence a closer relation between costs and prices, and in general a more economic organisation of the farm in accordance with the changed market situation, is indicated for the class of producers who are anxious to restore balance on their farms. Among the chapters of special interest in this connection are those dealing with prices of products, the general influence of prices on the farm undertaking, the influence of prices on farm management, on the organisation of trade in products, markets, price formation, economic forecasts and their basis. With reference to the necessity of organising farmers for the purpose of marketing products, special attention may be drawn to the chapters dealing with co operative selling. This important subject is here discussed fully and systematically. The author makes frequent references to the work of the International Institute of Agriculture (in the direction of which he was for several years engaged) and in this way he introduces the international standpoint which is one that cannot be neglected under modern economic conditions. We may further note that in the discussion of the theories the author displays a capacity for penetrating into the spirit of the different national schools of agricultural economy, especially the German and the American, and for presenting their characteristics to the reader. This insight in fact constitutes one of the most original and instructive features of the book].

TALMAKI S. S. I.L. B. : *Co-operation in India and Abroad*, with preface by Sir LALUBHAI SAMAJDAS C. I. E. Basel Mission Press, Mangalore 1931 pp. 502.

[The author of this valuable hand book is not only a keen student of the progress of the co operative movement in India and other countries, but also a worker of long experience in the field of co-operation. He was a pioneer in the co-operative housing movement in Bombay, and for the past thirteen years, the whole period of its existence, has acted as honorary secretary of the Bombay Provincial Co-operative Institute, devoting his energies especially to the educational work of that Institute.

An appreciative preface is contributed by Sir Lalubhai Samaldas, first president of the All India Co-operative Institutes' Association, which has been recently formed to promote the development of co-operation in India and held its second Conference at Hyderabad in April 1931.

The material is so arranged that the Indian co-operative movement in all its phases is seen against the background of the larger and older developments of co-operation elsewhere in the world, and the value of the book to the student is greatly enhanced by the careful sectional treatment of the subject. The eight sections include three relating to the historical, economic and legal aspects, the fourth section which comprises half the book dealing with the main divisions of the movement, and the remaining sections on co-operative federations, finance, administration, education, and a general summary of the progress of co-operation in India.

The treatment in the fourth section of the forms of agricultural co-operation in India is very full and comprehensive, while owing to the skilful use of headings it is easy to extract the information required in respect of any form in any province. The chapters relating to the societies for agricultural production and sale is of special interest, and includes a valuable summary of the difficulties in organisation of sale of products in India and of the practical remedies already initiated or suggested, such as the regulation or licensing of warehouses with issue of negotiable "godown" receipts, regulation of markets as already carried out in Bombay and Berar for cotton, provision of roads to link villages with the main arteries of traffic, as well as financing proposals. Two other very important chapters in this section respectively describe the present position of co-operative mortgage credit in India and discuss the problems of the Land Mortgage Banks the general establishment of which is now proposed in the Central Banking Enquiry Reports. Stress is laid on the importance of obtaining the capital of mortgage banks by debentures and not through deposits which may mature for repayment at a time when the capital is locked up in long term loans and is thus not fluid. The term of repayment of debentures should exceed by at least five years the maximum term of the mortgage loans. The writer seems to concur with other authorities in considering that a mortgage loan should be made over a fairly long period up to 20 years to allow of amortisation on a low rate of interest. He emphasises also the essential purpose of a mortgage loan as distinctly productive, either for redemption of former debts, purchase or improvement of land.

In addition the chapters in the third section on co-operative law, European and Indian, are instructive, and the last chapter on the general progress of co-operation in India gives an excellent survey of the present position. The book is completed by a list of Federations Institutes or Unions doing co-operative propaganda work in India, and by a short bibliography on co-operation, including Indian].

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# AGRICULTURAL ECONOMICS AND SOCIOLOGY

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### LAND SYSTEMS

#### The Agrarian Reform in Estonia (*Continued*).

#### IV. — THE RESULTS OF THE NEW LAND SYSTEM.

##### *The Distribution of Farms and the Social Groups of the Rural Population.*

In accordance with the policy laid down by the Agrarian Law, the principal result of the agrarian reform has been the disappearance of large landed property and the increase in the number of peasant farms, a large number of persons who formerly owned no land having now obtained land and acquired economic independence. As we have already stated there were, before the agrarian reform, in Estonia (apart from the district of Petchori and Transnarovia) 51,635 peasant properties and 1,149 large estates (noble estates, estates of the Crown and of the parishes), in all, 52,784 properties.

These properties were distributed as was shown in Table II (page 157).

Up to and including 1929, 51,204 new properties had been created on land subjected to the reform as shown in Table III (page 158).

Of these properties, 6,158 were sites for buildings (*Heimstätten*) and 37,859 were settlement lands, the remainder being lands assigned for special purposes, such as schools and institutions serving to promote the development of agriculture (experiment stations, stock-breeding centres, stations for the production of selected seeds, etc.).

In addition, up to 1929, 12,855 holdings on expropriated lands were consolidated. They were thus distributed according to size

Up to 10 hectares . . . . .	3,317 holdings
10 to 20   " . . . . .	3,315   "
20 to 30   " . . . . .	2,638   "
30 to 60   " . . . . .	3,225   "
60 to 120   " . . . . .	355   "
Over 120   " . . . . .	5   "

More than 3,100 old peasant holdings were increased by adding supplementary lands.

In consequence of the agrarian reform it is particularly the small property that has been increased, that is, the number of peasant holdings, farmed by the work of a family (without paid labour). This increase has of course, been made at the expense of the large landed property (1). If we take the number of properties in each size-group before the reform as 100, we obtain for the transformation of landed property in the different groups going up to 100 hectares the following index-numbers :

Up to 1 hectare . . . . .	177.2
1 to 5 hectares . . . . .	193.7
5 to 10    " . . . . .	245.4
10 to 20   " . . . . .	235.4
20 to 30   " . . . . .	124.1
30 to 50   " . . . . .	19.1
50 to 75   " . . . . .	6.2
75 to 100   " . . . . .	6.0

According to the results of the agricultural Census taken in 1929 there were in Estonia 133,357 agricultural holdings. They were classified as shown in Table IV (page 158).

In 1929 there still existed 194 holdings considered as large holdings, their average area being 300 hectares ; they were, in the main, holdings reserved for purposes of agricultural improvement, that is, for agricultural schools, experiment stations, seed-selection stations, and live stock improvement stations, and have been granted or rented to State or other institutions or to private individuals, but included also unexpropriated properties belonging to towns and to institutions. If to these we add the holdings of more than 100 hectares (with an average area of 210 hectares) not affected by the agrarian reform, which, before the reform, were generally included amongst the peasant farms — a part of these is represented by unexpropriated properties — the number of large properties becomes 471.

Moreover, according to the agricultural census of 1929 there existed 50,104 holdings of less than 1 hectare, of which 21,977 were in the communes, 4,822 in the towns and 23,305 in urban districts.

Side by side with the carrying out of the agrarian reform there were consolidated in execution of the Law on consolidation up to 1929 : (a) the villages with *Seelenland* in Transnarovia and in the region of Petchori (these are villages in which the fields are arranged in strips and are subject to periodical redistribution) : 384 villages with 8,418 peasant farms of a total area of 84,019.08 hectares, and (b) " holdings in rags ", or properties of which the fields consisted of scattered parcels intermixed with

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(1) Of the former large landed property, 81,593 hectares or 3.4 per cent. were not expropriated, whilst 2,346,494 hectares or 96.6 per cent. were expropriated ; of the latter area, 1,142,043 hectares, or 48.7 per cent., were covered with forests and marshes which were subjected to expropriation, 1,204,451 hectares or 51 per cent. were subjected to consolidation and to distribution for agricultural purposes. In addition, 35,711 hectares were expropriated in Transnarovia and in the district of Petchori.

parcels belonging to other properties and which often had grazing land in common : in all 137 holdings with a total area of 2,159.89 hectares (1).

The settlement holdings created under the agrarian reform are generally composed of two or three separate parcels, the arable land, the garden and the poultry run being usually together in the main parcel, while the isolated parcels consist particularly of meadows and pasture-land.

The old rented farms which existed in the form of villages on the land that became the property of the State are generally divided into four separate parcels the arable land forming the main parcel by itself, apart from the poultry-run and garden (2).

TABLE II. — *Number of Properties classified according to Size, in 1918.*

Districts	Up to 1 des- siatine (up to 1.1 ha.)	1 to 5 des- siatines (1.1 to 5.5 ha.)	5 to 10 des- siatines (5.5 to 10.9 ha.)	10 to 20 des- siatines (10.9 to 21.8 ha.)	20 to 30 des- siatines (21.8 to 32.8 ha.)	30 to 50 des- siatines (32.8 to 54.6 ha.)	50 to 75 des- siatines (54.6 to 81.9 ha.)	75 to 100 des- siatines (81.9 to 109.2 ha.)	Over 100 des- siatines (109.2 ha.)	Estates (Güter)	Total
Viru . . . . .	1,171	833	349	1,210	1,456	1,984	371	77	167	172	7,290
Järva . . . . .	258	116	181	447	797	1,187	351	50	24	101	3,457
Harju . . . . .	744	645	678	1,249	952	1,908	1,027	173	209	171	7,751
Lääne . . . . .	194	434	441	901	1,238	2,069	562	66	14	148	6,007
Saare (*) . . . .	(94)	(187)	(205)	(145)	(275)	(670)	(173)	(27)	(13)	139	(*) 4,420 (1,878)
Pärnu . . . . .	489	475	627	792	730	1,307	844	237	52	73	5,826
Wiljandi . . . .	446	525	345	336	580	1,080	782	197	83	72	5,046
Tartu . . . . .	547	930	688	593	945	2,538	1,070	165	73	149	7,698
Valga . . . . .	10	20	19	36	117	375	368	111	42	36	1,129
Võru . . . . .	88	226	96	422	853	1,675	678	111	63	88	4,300
Total . . . . .	4,036	3,841	3,574	6,131	7,043	15,393	6,221	1,214	740	1,149	52,784
% . . . . .	7.6	7.3	6.8	11.6	15.0	29.2	11.8	2.3	1.4	2.2	100.0

(\*) For the Island of Oesel (Saaremaa) detailed statistics can only be supplied for 1,878 estate.)

As yet there is no apparent economic differentiation between the settlement holdings of different sizes created by the agrarian reform : up to now they have in general kept the character of small holding fixed at the moment of their creation. Some exceptions are found where two or more settlement holdings have been combined to form a single farm. There are also cases where in a holding created by the reform, one finds more than one farm.

The agrarian reform has, of course, led to great changes in the social position of the rural population : the class of independent landowners has increased while that of landless persons, usually the second and third sons of agricultural labourers and of owners of peasant farms, diminished ; the tenants become owners and, in addition, a numerous class of owners of very small farms (*Heimstätten*) was formed.

Under the Agrarian Law, lands were distributed for cultivation to 11,000 agricultural labourers working on the noble estates and to 26,859 landless persons who

(1) Farms on properties not expropriated under the Agrarian Law which, under the provisions of the Law of 1926 on compulsory sale of private lands, had to be detached and registered in the name of the occupier. Up to the present only a few farms have been so detached.

(2) In like manner the "holdings in rags" and the *Seelenland* have been consolidated in execution of the Law on consolidation.

were, for the most part, persons who had taken part in the war of liberation, sons of farmers, agricultural labourers, etc.

Land for the erection of dwelling-houses (up to 1 hectare) were given to 6,158 citizens of the State. In addition, a large number of officials and employees of the State and of the communes residing in the country as teachers, doctors, policemen, officials of the autonomous local administrations, etc., also received land as a supplement to their salaries. Unfortunately there are no statistics of the number of persons who received land in this way, the lands having been assigned in block to the authorities and institutions for the employees of which they were intended. According to the data of the agricultural census of 1929, there were in the whole country 3,865 of these holdings serving as a supplement to salaries.

Under the Agrarian Law 23,023 former tenants of the noble estates became landowners.

TABLE III. — *New Properties Created up to the end of 1929 under the Law on Agrarian Reform.*

Districts	Up to 1 ha.	1 to 5 ha.	5 to 10 ha.	10 to 20 ha.	20 to 30 ha.	30 to 50 ha.	50 to 75 ha.	75 to 100 ha.	Over 100 ha.	Total
Viru . . . . .	842	684	1,718	2,250	1,500	404	40	4	12	7,454
Tarva . . . . .	688	811	757	1,212	1,048	232	33	9	12	4,282
Harju . . . . .	1,103	645	716	1,307	1,454	612	82	12	28	6,049
Lääne . . . . .	505	533	712	1,568	1,285	638	62	7	14	5,324
Saare . . . . .	619	382	680	1,746	747	114	26	14	20	4,357
Pärnu . . . . .	787	589	511	713	705	232	53	6	11	3,587
Wiljandi . . . . .	178	564	718	1,256	755	117	13	3	8	3,612
Tartu . . . . .	1,609	2,016	1,582	2,198	1,321	340	41	7	19	9,136
Valga . . . . .	339	361	368	652	339	88	19	5	3	2,174
Võru . . . . .	415	1,277	974	1,207	701	170	15	6	9	4,774
Total to end of 1929	7,045	7,362	8,736	14,199	9,855	2,947	387	73	145	50,749
Number created in 1930 and 1931 (provisional figure-) . . . . .	106	79	36	234	—	—	—	—	—	455
Total to end of 1931	7,151	7,441	8,772	14,433	9,855	2,947	387	73	145	51,204
Percentages	14.0	14.5	17.1	28.2	19.2	5.8	0.8	0.1	0.3	100.0

TABLE IV. — *Classification of Holdings in 1929.*

Size-groups	Holdings situated on purchased peasant lands		Holdings situated on expropriated lands		All Holdings	
	Number	Percentage	Number	Percentage	Number	Percentage
From 1 to 5 ha . . . . .	11,187	15.7	12,269	19.8	23,456	17.6
" 5 " 10 " . . . . .	9,908	13.9	11,692	18.3	21,600	16.2
" 10 " 20 " . . . . .	15,442	21.6	19,535	31.5	34,977	26.2
" 20 " 30 " . . . . .	12,637	17.7	11,598	18.7	24,235	18.2
" 30 " 50 " . . . . .	16,482	23.1	5,703	9.2	22,185	16.6
" 50 " 100 " . . . . .	5,396	7.6	1,037	1.7	6,433	4.8
Over 100 . . . . .	277	0.4	194	0.3	471	0.4
Total	71,329	100	62,028	100	133,357	100

Thus, about 283,000 persons (including members of families) have benefited by the agrarian reform, this being about 35 per cent. of the agricultural population and about 25 per cent. of the total population.

Indirectly all the rural population has had the advantages of the lands granted to the agricultural schools, experiment stations, and agricultural co-operative societies (co-operative dairies, potato co-operative societies, co-operative societies for the working of turf-bogs, etc.) and to the autonomous administrations. Moreover, the agrarian reform has rendered it possible for the large towns and market towns to enlarge their communal lands by 9,700 hectares.

### *The Influence of Agrarian Reform on the Intensiveness of Agriculture.*

It must be remarked as a success of the agrarian reform that agriculture on the farms formerly rented from the noble estates has become more intensive. As tenants for a limited period the farmers were not, of course, able to do much towards transforming the methods of cultivation of the land, as they had no guarantee of fixity nor any possibility of obtaining credit to carry out the necessary improvements of the land or to construct up-to-date buildings. As soon as the land became the property of those who cultivated it, these obstacles were removed and personal effort was encouraged.

The same result may be noticed in the peasant farms formed on land which formerly belonged to the noble estates and were extensively cultivated. It may even be said that, in general, with the formation of small holdings and perhaps also in consequence of new market conditions, the farmers have begun to grow more grass and in part also more potatoes and root-crops for stock feeding, adopting a more scientific rotation. Moreover, it may be noted that greater attention is being given to the permanent grass-lands which were formerly let by the administrators of the noble estates for hay-making in return for the half of the hay made, and that lands formerly uncultivated are now being cultivated.

The area sown and the improvement of meadows and grazing-lands have appreciably benefited by the regulation of the drainage and the granting of land improvement credit. Up to 1929, drains have been dug and river-beds deepened at the expense of the State to a total length of 2,220 kilometres, the cost of these works amounting to 2,847,000 crowns.

Loans for land improvement have been granted to farmers for a total amount of 3,100,000 crowns.

On the initiative of private individuals the following lands have been drained :

	Arable land Ha.	Meadows Ha.	Grazing lands Ha.	Forest Ha.	Total
a) By means of tile drains . . . . .	25,800	8,400	—	—	34,000
b) By means of open ditches . . . . .	145,800	58,700	24,000	4,000	232,000
Total . . .	170,000	67,100	24,000	4,000	265,000

Before the agrarian reform the area cultivated reached its maximum in 1916. From this year onward it fell continuously, reaching its lowest level in 1919, after which it began to increase and finally exceeded by 8.3 per cent. the pre-war figure.



The areas under different crops before and after the agrarian reform are shown (as percentages) in the following table :

Years	Cereals for human consumption	Feed grains	Grass	Potatoes	Flax	Other crops	Fallow	Total	Cultivated Area 1919 = 100
1916 . . .	18.79	34.57	18.53	7.23	3.11	0.50	17.27	100	112.8
1919 . . .	19.86	35.15	17.56	6.83	1.91	0.40	18.29	100	100
1929 . . .	17.55	34.67	21.07	6.23	3.10	0.38	17.00	100	117.4
1930 . . .	18.97	33.88	20.69	6.83	3.26	0.18	16.19	100	120.6

From this table it results :

(1) that since 1916 only insignificant changes have occurred in the area under bread-cereals and feed-grains ;

(2) that the area under grass is continually increasing. The area so cultivated was :

168,273 hectares in 1925

182,624       »       » 1927

204,703       »       » 1929

206,305       »       » 1930

(3) that the area under industrial crops, that is, potatoes and flax, has not appreciably altered.

In general, the total area under cereals has increased, the changes that have occurred in the relation amongst themselves between the different areas cultivated being comparatively trifling.

The development of small farming has hardly changed at all the length of the season of work in the fields, but the growth of animal husbandry has rendered uniform the distribution of the whole work.

The employment of manual workers has decreased ; paid labour has been replaced by the far more productive work of the owner and at the same time the number of implements and machines used has greatly increased.

In many of the new farms the work has been much more scientifically organised according to the principles of rationalisation, but it is true that there are even more farms where the organisation of the work leaves much to be desired. This is due to the fact that the agricultural knowledge of the farmers is still inadequate.

#### *Machines and Equipment on the Farms.*

As has been already stated, the need of implements and machines has greatly increased as a result of the agrarian reform.

Thus the number of farm-carts has increased by 37.7 per cent. ; of ploughs by 36.2 per cent. ; of harrows and cultivators by 47.9 per cent. ; of seed-drills by 36.7 per cent. ; of reapers and harvesters by 71.5 per cent.

Calculated at cost price, the capital value of the implements used for tillage has increased by 42 per cent. ; of reapers and harvesters and threshing machines by

52 per cent. ; while the total capital value of implements and machines has increased by 49 per cent.

Unfortunately the national industry cannot completely supply this demand, since neither reapers and harvesters, nor tractors, nor separators are produced in the country. Although agricultural implements are produced in the country, as well as ploughs, harrows and other implements of this kind and also, in isolated cases, motor and steam machines, threshing machines, winnowing machines, and straw-cutters, and dairy implements, the greater part of the demand is met by importation.

The imports of implements and machines in recent years were as follows :

	Imports of agricultural implements and machines crowns	Total imports crowns	Percentage of imports of agricultural implements and machines in relation to total imports
1923 . . . . .	2,081,000	468,044,000	0.50
1927 . . . . .	1,647,000	96,420,000	1.40
1928 . . . . .	3,104,000	131,373,000	2.37
1929 . . . . .	3,175,000	122,367,000	2.58

As to the equipment of the new peasant farms, they are not yet sufficiently provided with the necessary equipment, buildings and stock, and consequently the present stage of their development cannot be regarded as final. The subsidiary loans granted by the State — 1,200 crowns on the average — and the loans for the purchase of stock (or stock obtained in kind) — 250 crowns on the average — were too trifling to provide the newly created holdings with the necessary buildings and stock.

The majority of the settlers were poor. Savings deposits lost all their value as a result of the depreciation of the currency caused by the Russian depreciation and of the depreciation that took place during the German occupation. (The deposits in the Russian savings banks have not yet been repaid). This explains why the new equipment could only be provided gradually out of income.

According to the data of the agricultural census of 1929, some of the new peasant holdings have not yet been provided with buildings at all, whilst in other holdings the buildings have not yet been completed (See Table V, below).

As to the live stock and the work animals, the new settlement holdings are not less well provided than the peasant holdings previously purchased.

TABLE V. — *Buildings on Settlement Holdings.*

Size group	Total number of holdings	Dwelling houses		Cow houses		Other stables				Barns	
		Number	Area	Number	Area	Number	Area	Number	Area	Number	Area
From 1 to 5 hec.	4,930	8,908	64	2,854	40	211	43	107	66	667	24
» 5 » 10 »	6,837	5,191	68	4,443	50	594	31	500	77	1,343	27
» 10 » 20 »	11,680	10,664	76	10,106	68	2,451	44	2,266	86	4,369	33
» 20 » 30 »	7,151	6,868	86	6,616	83	1,752	45	1,674	106	3,177	87
» 30 » 50 »	1,789	1,761	100	1,688	96	438	67	475	121	940	52
» 50 » 100 »	190	260	213	240	183	105	112	56	289	169	101
Over 100 »	—	—	—	—	—	—	—	—	—	—	—
Total . . . . .	32,077	28,652	78	25,947	60	5,551	46	5,158	97	10,665	35

Size group	Drying sheds		Sheds		Cellars		Bath houses		Area occupied by buildings	
	Number	Area	Number	Area	Number	Area	Number	Area	per settlement holding	per old peasant holding
From 1 to hec .	10	46	2,299	41	513	14	904	15	104	186
5 — 10	24	47	3,313	48	665	13	1,312	18	195	189
10 — 20	256	55	9,854	69	1,813	16	4,174	18	285	291
20 — 30	287	49	7,616	78	1,428	17	2,323	21	308	422
30 — 50	144	66	2,073	98	460	30	524	22	412	566
50 — 100	70	109	392	177	155	67	64	34	1,235	764
Over 100	—	—	—	—	—	—	—	—	—	—
Total	771	59	25,547	70	5,034	18	9,901	19	226	424

For every 100 hectares of agricultural land there were, according to the data of the agricultural census of 1929

Years and kinds of live stock		All holdings		Holdings 20 to 30 hectares in extent	
		Settlement holdings	Old peasant holding	Settlement holdings	Old peasant holdings
Horses	1925	9 33	7 71	8 42	9 55
	1929	9 11	7 10	8 3	7 8
Cattle	1925	20 30	20 08	18 86	21 45
	1929	24 10	21 7	23 2	23 0
Pigs	1925	12 93	11 36	10 34	12 35
	1929	11 10	9 7	9 4	10 2
Sheep	1925	30 08	24 16	25 17	27 51
	1929	20 2	16 0	18 0	18 3

The number of agricultural implements and machines to every 100 hectares of land is shown in the following table

Holdings and Years		Ploughs	Harrows and cultivators	Seed drills	Threshing machines	Reapers and binders	
Old peasant holdings	1925	23 2	23 7	0 61	1 39	3 52	2 40
	1929	24 4	26 0	0 77	1 32	2 75	2 55
Settlement holdings	1925	25 6	24 3	0 30	1 04	0 16	0 37
	1929	29 0	29 8	0 44	0 29	1 43	0 62

From a comparison of the figures in the foregoing table it will be seen that the difference in equipment between the old and new farms lies in the number of agricultural machines and implements they possess. This difference is particularly striking in the case of the costly machines

### *Land and Agricultural Credit.*

Up to the time when Estonia became independent there were several agricultural banks in the country making mortgage loans, such as the Estonian Land Credit Bank, the Livonian Land Credit Bank, the Russian Peasants' Bank and two

Russian agricultural banks belonging to private individuals. The land credit banks were of service chiefly to the large landowners, to whom they granted loans on the pledge of their property. The sale of the peasant lands also was made through the medium of the credit banks. The Peasant's Bank was, in the main, a land settlement institution, and that during a comparatively brief period only (1907-1914). The operations of the private banks were quite trifling. The need of agriculture for short term credit was, for the most part, met by the co-operative loan and savings banks.

As a result of the great war, of the Russian revolution and of the detachment of Estonia from Russia, the system of agricultural mortgage credit was destroyed. The savings and loan banks had lost all their reserves and their deposits, as also had the commercial banks so that land and agricultural credit had to be created anew.

The people having been impoverished by the great war and the revolution, land and agricultural credit could not be organised either by private initiative or on co-operative lines and it was the State which had to take the initiative. At the commencement, the sums required to finance agriculture had to be obtained by inscribing them on the budget. Those who had the greatest need of money were, of course, the owners of the new holdings, because they had still to buy the stock necessary for cultivating their lands and to construct buildings.

It follows that one of the first tasks in the organisation of agricultural credit was to supply loans to the owners of new holdings. The effective aid began in September 1920, when building materials from the State forests were supplied on credit to persons who had obtained land. The price of the building materials had to be paid within 20 years with interest at 4 per cent.

From the first years of the agrarian reform loans were granted for the purchase of stock. From 1920 onwards the State sold the expropriated stock to the settlers on credit. This debt had to be liquidated in six years with interest at 7 ½ per cent. (reduced in 1923 to 6 per cent). As the expropriated stock was far from sufficient to supply the new holdings with the most necessary animals — horses and cattle — it was necessary to make money loans for the purchase of stock. From 1921 loans were granted by the State Bank through the medium of co-operative credit institutions. The new settler could obtain up to 500 crowns for the purchase of stock. The loan had to be repaid within six years, with interest of 7 ½ (later 6) per cent.

From 1922 building loans were granted for wooden buildings up to 60 per cent. of the cost of construction for a period of 30 years, and for buildings constructed of fire-resisting materials up to 80 per cent. of the cost for a period of 40 years. The rate of interest on these loans was 2 per cent.

In addition to the settlement loans mentioned, improvement loans were granted to the new settlers as well as to the old peasants up to 75 per cent. of the cost, repayable by instalments in 15 years with interest at 4 per cent. (now 2 per cent.).

Under the Law of 1927 all the settlement and improvement loans granted to the new settlers can be consolidated into a single loan repayable by instalments in 36 years with 2 per cent. interest for the debt and 1/2 per cent. for the expenses of administration.

Up to 1929 the above-mentioned loans were paid out of the State Bank in the order of their inscription on the Budget. By the Laws of 1925 the loans granted to settlers were treated as belonging to the settlement fund, and the land improvement loans as belonging to the land improvement loan fund.

In 1929 a settlement capital was created by a special law (5 April 1929) in order

to provide for the financial engagements incurred in carrying out the new land system and for continuing the settlement and encouraging land improvement (1).

The settlement capital is formed, in the main, of the sums received for the cultivation and the liquidation of lands expropriated under the Agrarian Law and detached from the State reserve of lands and, in addition, of the fused agricultural loans and of the interest received on them. Both the grants of loans on the lands affected by the work of settlement and the payments of compensation to the former landowners for the expropriated estates are made out of this settlement capital. At the time of the formation of the settlement capital the fund for building loans to be granted to the settlers was liquidated.

Both the work of settlement and agriculture in general have had to be financed out of State funds. For these purposes, as a complement to the land improvement loan fund, a series of other funds was formed in order that it might be possible to grant long term loans at low rates of interest for the formation of co-operative dairies, flax mills, agricultural vocational schools, experiment stations, and grain-grading stations. Loans of the same kind were granted to fishermen to enable them to buy motor boats and fishing-gear and to farmers for the sale of grain and as subsidies during years of bad harvests.

In 1930 all the special funds above enumerated were amalgamated into a single agricultural fund for financing all the engagements mentioned. This fund is administered by the State Bank for Long Term Loans.

In addition to the special funds above mentioned, the Land Bank of Estonia was formed in 1926 for the purpose of financing agriculture, and in 1927 the Bank for Long Term Loans was formed with the same object. Both these banks are State institutions.

The Land Bank gives only mortgage loans; it has a social capital of 2,000,000 crowns and grants loans in the form of bonds.

A. Loans for definite objects

- |                           |  |
|---------------------------|--|
| (a) for land improvement; | } Up to 60 per cent of the value<br>of the property mortgaged. |
| (b) for building.         |  |

B. Free loans.

- |   |  |
|---|--|
| (a) for the repayment of private debts;       | } Up to 40 per cent of the value<br>of the property mortgaged. |
| (b) for the payment of purchase money;        |  |
| (c) for the payment to heirs of their shares; |  |
| (d) for other economic purposes.              |  |

These loans are granted by the Land Bank for a period of 5 to 55 ½ years. In the Land Bank there is a section for loans granted by the State and for the debts due in respect of purchase, which carries out all the operations relating to the settlement fund and to the land improvement fund.

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(1) Under this Law the Government of the Republic issued on 12 July 1929 a temporary order regulating settlement and creating at the Ministry of Agriculture a special settlement commission composed of three members, the functions of which were to buy lands, to subdivide them, to put them in order (improvements, construction of roads and of buildings) and to sell them. For the lands put in order the settler has to pay 3 per cent. interest, 1/2 per cent. for administration expenses and, according to the period of repayment, a certain rate of amortisation. The debt must be repaid within a period not exceeding 50 years.

The Bank for Long Term Loans is a mixed bank, that is, it finances not only agriculture but also other branches of economic activity, such as industry, navigation, and building; it further finances the autonomous administrations and the co-operative societies in the accomplishment of their special tasks. The Bank for Long Term Loans grants mortgage loans for long periods (up to 20 years) and loans on the security of bills for short terms (six months to five years). The social capital of the Bank is 5,000,000 crowns. It is principally through the Bank for Long Term Loans that the farmers obtain loans for short periods.

A large part of the farmers' requirements in the matter of short term loans is, however, satisfied by the private banks and by the co-operative banks. The number of these institutions in Estonia in 1930 was as follows:

Joint-stock banks . . . . .	14
Municipal banks . . . . .	2
Bank agency . . . . .	1
Total . . .	17 private banks
Co-operative banks . . . . .	184
Savings and loans banks . . . . .	34
Total . . .	218 co-operative credit institutions

The majority of the co-operative credit institutions make loans to farmers, As a result of the agrarian reform, the need of credit is, of course, considerable, and the rate of interest is at present 8 to 12 per cent.

The basis of credit has, generally speaking, remained the same: the relation between the fixed capital in the peasant holdings (land and buildings) and the movable capital (stock and working capital) has not greatly changed, because the price of land has fallen by 40 per cent. in comparison with the pre-war price while the buildings, on the contrary, have become dearer in the same proportion.

### *Agricultural Production.*

According to the results of the agricultural census of 1929 there were 133,357 holdings the working of which is shown by the following table:

Gardens . . . . .	22,952 hectare
Arable land . . . . .	1,008,612 »
Meadows . . . . .	910,417 »
Grazing-land . . . . .	709,890 »
Forests . . . . .	160,104 »
Marshes . . . . .	151,941 »

From these figures it appears that of the agricultural land 33.4 per cent. was arable land and gardens, while 52.3 per cent. was meadows and grazing-land. That is why according to natural conditions, it is animal husbandry which has most chance of developing, and this appears also from the increase in the number of head of stock and the increase of animal production.

*Number of Cows and Production of Milk.*

Agricultural Year	Number of cows	Production of milk		Index-numbers		
		Total metric tons	Yield per cow kg.	Number of cows	Production of milk	
					Total	Yield per cow
1922-23	807,808	365,192	1,286	100	100	100
1924-25	821,245	497,287	1,548	104.5	125.8	120.4
1927-28	886,050	658,516	1,708	125.8	166.6	182.4
1928-29	403,850	658,025	1,617	181.4	165.2	125.7
1929-30	406,562	760,271	1,870	—	—	—
1930-31	415,897	—	—	—	—	—

*Production of Meat.*

Agricultural Years	Production metric tons	Index-numbers of production
1922-23	65,019	100
1924-25	67,233	103.4
1927-28	73,437	112.9
1928-29	73,476	113.0

The same development may be noted in the dairies and slaughter-houses, as will be seen from the following tables:

Years	Number of dairies	Quantity of milk handled: metric tons	Butter manufactured. metric tons
1924	272	93,180	3,629
1926	399	246,242	9,721
1928	382	305,684	12,219
1929	384	345,638	13,700
1930	383	387,989	15,549

Years	Number of slaughter-houses	Quantity of meat handled: metric tons
1924	18	18,288
1926	21	21,376
1928	28	27,606
1929	30	22,963

The development of other agricultural industries, such as distilleries; potato-flour and starch factories, tile-making and mill-construction, depends on the demand in the home market. Since the declaration of the independence of Estonia the number of distilleries has greatly diminished, as the Russian market is no longer open to their produce.

Besides the development of animal husbandry, there is a probability that the yield of cereals per unit of area will be increased.

The yield per hectare of cereals and other crops was as follows :

	Rye	Wheat	Barley	Oats	Potatoes	Hay	Flax
Average for :							
1922-26 . . . . .	969	1,041	969	851	10,829	2,985	821
1929 . . . . .	1,289	1,140	1,258	1,246	12,205	2,976	805
1930 . . . . .	1,521	1,217	1,148	1,059	12,686	3,469	881

The present yields are comparatively small, but in recent years more importance is beginning to be attached to a better cultivation of the land, by which an increase in production can be obtained.

As to the quality of the agricultural products, it has appreciably improved from year to year since control of the exports of butter, eggs, potatoes, fruit, meat, fish and flax was introduced.

Thus the quality of butter was :

Years	1st Quality	2nd Quality	3rd Quality
	per cent.	per cent.	per cent.
1925 . . . . .	53.8	44.4	1.8
1926 . . . . .	55.5	41.3	3.2
1928 . . . . .	81.7	15.8	2.5
1929 . . . . .	81.13	16.1	2.6
1930 . . . . .	87.5	10.3	2.2

The agrarian reform has rendered possible the creation of special institutions for the production of selected seeds and of experiment stations, the work of which has contributed to the improvement of the different kinds of cereals, of root crops, of fruits and grasses. Moreover, all seeds offered for sale are subjected to official control. Breeding associations provide for the improvement of the breeding of cattle and horses. The number of animals inscribed in the herd books has increased from year to year and the network of cow-testing societies has extended further. In general the total agricultural production shows an upward tendency :

	Total production (in thousands of crowns)			Index of production		
	Arable farming	Animal husbandry	Total	Arable Farming	Animal husbandry	Total
Moyenne pour :						
1922-23 . . . . .	90,840	90,858	181,198	100	100	100
1923-27 . . . . .	101,640	121,318	222,958	94.0	135.1	115.6
1927-28 . . . . .	111,399	135,926	247,325	95.7	139.0	118.1
1928-29 . . . . .	106,037	150,757	256,794	72.7	134.9	105.5
1929-30 . . . . .	99,376	157,411	256,787	79.8	119.0	98.2

The net agricultural return was :

Agricultural Years	Return crowns
Average 1922 to 1927 . . . . .	191,586,000
» 1927-28 . . . . .	213,286,000
» 1928-29 . . . . .	220,796,000
» 1929-30 . . . . .	222,765,000



Agricultural production represented 65 per cent. of the general economic production.

The proportion between the agricultural production and the number of inhabitants was as follows :

Years	Total agricultural production crowns	Number of inhabitants	Production per head of the population crowns	Index of production per head of population (1922-1923 = 100)
1922-23	181,183,000	1,107,000	168	100
1927-28	247,325,000	1,116,000	221	136
1929-30	256,787,000	1,114,747	230	141

The increase of the agricultural production, particularly the increase of animal products, is a consequence of the change from large farms to small farms and, accordingly, a consequence of the agrarian reform.

It is true however, that the transformation of agricultural products on co-operative lines has also contributed to this development, as it has enabled the small farms to benefit by most of the advantages which are usually the privilege of large farms.

(To be concluded).

## INSURANCE

### Agricultural Insurance in Bulgaria.

*Hail Insurance.* — Hail insurance is effected in Bulgaria exclusively by the insurance section of the Central Co-operative Bank of Bulgaria at Sofia. This bank was established by the Law of 26 December 1910, amended and completed by that of 19 March 1925 published on 21 March of the same year, constituted on the basis of optional insurance and of mutual aid.

During the period from 1895 to 1903 the organisation of hail insurance had been founded on the principle of compulsion by a law enacted in the course of 1859. This latter form of insurance was extended to all crops except tobacco. Premiums were established for all parts of the territory of the State and for all the crops on the uniform basis of 5 per cent. of the land tax. The State contributed to the compensation fund by means of an annual subsidy of 500,000 *levas*. This form of insurance was applied over a period of eight years, but as it did not yield the results anticipated it was abolished in 1903.

In 1910 a new law was introduced to assist the farmers by establishing the organisation which is now in force with the modifications made necessary by circumstances, especially by the consequences of the war, *viz.*, devalorisation of the *leva*, increase of taxes, economic upheaval, etc.

Hail insurance, as thus organised, is not subject to the law of 1 May 1932 relating to supervision of private institutions of insurance, which amended and completed the law of 26 July 1926 by which State supervision had been introduced for private insurance societies. The law in fact does not apply to public insurance institutions, existing in virtue of special laws.

The hail insurance section of the Central Co-operative Bank must however report each year on its activity to the Minister of Agriculture and Public Lands, and is under the control of this Ministry.

In connection with this insurance institution there is a Council consisting of (a) one member chosen from among the insured persons in each district and elected for a period of three years by the Council of that district ; (b) the Chief of the Agricultural Service at the Ministry of Agriculture and Public Lands in the capacity

of State Commissioner. This Council is summoned to meet at least once in the year. The decisions of the Council are submitted in advance to the approval of the Ministry of Agriculture. The institution is expected to carry out the decisions of the Council relating to any modifications of the general conditions of insurance, entrance fees and changes relating to the franchise or minimum limit below which compensation is not given.

Except in cases expressly regulated by the law in accordance with which the Institution has been established, the institution itself subject to the approval of the Ministry of Agriculture fixes :

- (a) the conditions of insurance ;
- (b) the method of taking up insurances ;
- (c) the method of estimating losses ;
- (d) the amount of the entrance fee ;
- (e) the annual premium to be calculated on the basis of hail risk as affected by geographical considerations and the type of crop ;
- (f) the limits within which compensation is paid.

The funds of the institution must be devoted exclusively to these objects and are under separate management.

The foundation capital of the institution has been fixed by the law at 30 million *levas* paid up by the State. Up to the present only one million *levas* have been paid up (1). Apart from these funds, the law has established that this institution is to receive every year from the State a subsidy of 8,500,000 *levas* as a minimum. During 1930 only 2,000,000 *levas* were paid (2).

To meet payment of compensation during the year and administration expenses, there are set aside (a) the premiums received in the course of the year, (b) the subsidies granted by the State ; (c) the interest on the funds. The annual subsidies granted by the district councils amounting to at least one per cent. of their budgetary receipts serve to reduce the premiums of the insured persons of the corresponding department. If the financial sources indicated, after deduction of administrative expenses, are not sufficient to cover at least 80 per cent. of the compensation payments due, 50 per cent. of the reserve funds may in accordance with the law be used to complete the necessary percentage of the compensation payments. If the sum obtained in this way is not enough for the purpose, the Insurance institution shall contract a loan with the Agricultural Bank or with the National Bank of Bulgaria for a sum equal to the deficit. This loan must be covered by the surpluses first accruing in the following years. A second loan of the kind can only be contracted after the first is amortised, even if the sums intended to meet compensation payments as indicated above are not sufficient to cover 80 per cent. of the payments due.

The reserve funds of the insurance institution consists of (a) surpluses remaining after the payment of the compensation amounts and administrative expenses, (b) entrance fees, (c) certain penalty payments which in accordance with the law are passed over to the reserve fund ; (d) donations, bequests, etc.

At the Central Co-operative Bank there is organised a regular service for observation of hailstorms as well as of the resulting damage. This service works independently of the Meteorological Service. Apart from the information published every year in the Bank report, a publication in the Bulgarian language appeared in 1931 relating to the organisation and activity of the Central Co-oper-

(1) Report of the Central Co-operative Bank of Bulgaria for 1930, p. 32.

(2) *Ibidem*.

ative Bank from 1911 to 1930 (*Dwadesset Godischnik na bulgarskata Zentralna Cooperativna Banka Sofia*) containing much interesting information and tables referring to hailstorms and damage from hail during the period indicated.

For the development of hail insurance, the Central Co-operative Bank has organised an active propaganda of a popular kind, carried out especially on 27 April of each year. This day has been called Hail Insurance Day.

The Central Co-operative Bank publishes yearly a report of its working containing some interesting information either in regard to the credit section or to the insurance section.

In respect of hail insurance, very useful tables are given by the Central Co-operative Bank of Bulgaria relating to the position of hail insurance from different points of view, as well to the development of hail insurance in Bulgaria. These tables include (a) a table on the number of insured persons in relation to the communes in which the insured persons live; the whole divided by departments; (b) a table on the distribution of the sum insured per crop, in relation to the premiums, the compensation payments, the area insured and that affected by the hail; (c) a table relating to the dates of hailstorms as well as the number of communes affected, (d) a table of profits and losses of the section of hail insurance during the year in question, and finally (e) a table on the development of hail insurance.

The following are some data for 1930:

Number of insurances	Number of insured communes	Sums assured	Premiums	Number of persons compensated	Compensation payments	Annual State subsidies	Grants from district councils	Area insured	Areas affected
		levas	levas		levas	levas	levas	decares	decares
78,310	1,962	944,843,530	30,445,043	12,525	21,287,160	(1) 2,000,000	235,068	2,026,541	141,040

(1) Out of the annual State subsidy fixed by the law at a minimum of 8,500,000 levass, as has been said, only 2,000,000 levass have been paid according to the Report of the Central Co-operative Bank

This note on hail insurance may be concluded by a table giving a summary of hail insurance in Bulgaria from 1911 to 1930.

Value of 100 gold fr in Bulgarian levass	Years	Insured persons	Insured communes	Sums assured	Premiums	Persons compensated	Compensation payments
				levass	levass	levass	levass
100 —	1911	3,444	491	1,120,490	134,865	517	126,974
100 —	1912	17,548	1,091	23,255,390	630,780	2,527	1,037,726
100 —	1913	25,026	1,198	39,326,450	921,183	3,993	869,761
100 —	1914	30,316	1,290	37,151,420	1,181,514	6,292	1,623,960
128.44	1915	35,552	1,413	41,742,945	1,326,357	6,718	1,227,236
136.92	1916	36,339	1,401	41,799,390	1,841,386	8,400	1,669,714
173.92	1917	38,765	1,402	65,537,950	2,114,133	4,083	934,684
166.54	1918	34,304	1,308	86,450,740	2,862,874	5,681	2,340,578
406 —	1919	31,064	1,243	123,316,620	4,305,292	5,672	4,155,394
1,242 —	1920	12,273	989	60,824,470	3,082,259	3,288	3,065,851
2,175 —	1921	9,467	926	74,622,260	3,459,879	1,960	2,974,103
2,998 —	1922	7,713	893	141,642,120	5,048,284	2,211	6,059,896
2,440 —	1923	8,739	846	155,998,920	5,731,805	3,959	16,101,238
2,685 —	1924	13,548	1,002	186,657,150	9,912,965	3,082	4,800,991
2,685 —	1925	26,638	1,286	366,825,340	14,393,605	4,988	9,328,175
2,685 —	1926	32,524	1,600	446,777,060	15,984,322	7,701	22,990,233
2,685 —	1927	50,376	1,794	817,464,090	29,252,307	7,856	14,986,472
2,685 —	1928	71,068	1,936	975,005,340	33,383,881	4,987	8,284,631
2,685 —	1929	68,521	1,893	661,573,410	22,971,154	10,425	22,670,443
2,685 —	1930	76,310	1,962	944,843,530	30,445,043	12,525	21,287,166

*Livestock Insurance.* — Livestock insurance is organised on the basis of the Law of 26 December 1910 as amended by the law of 27 February 1935 published on 17 March of that year. As for hail insurance there has been formed in virtue of the law mentioned a livestock mortality and accident insurance section of the Central Co-operative Bank of Bulgaria.

This insurance is optional and dependent on the principle of mutual assistance. Like hail insurance it is subject to the Law on the supervision of private insurance companies of 26 July 1926, completed by the Law of 1 May 1932.

Membership of the section is open to any livestock insurance association constituted in accordance with the provisions of the law organising livestock insurance, such association having accepted the livestock insurance regulations prepared by the Section and approved by the Ministry of Agriculture and Public Lands. The insurance associations are formed and carry on activity in accordance with a constitution drawn up and accepted by the General Meeting of founder members and confirmed by the Section. The livestock insurance section exercises a control over the activity of local associations. It has the right to verify their accounts and to see that they observe the provisions of the law and of the model statutes. The associations are exempt from the obligations imposed by the law on co-operative associations in respect of registration, publication of their proceedings and reports of working.

The associations are represented at the Bank by the council of the Section which consists of

(a) one representative of each district chosen from among the presidents of insurance associations and by the associations themselves. The election is carried out in accordance with the terms of a regulation confirmed by the Minister of Agriculture ;

(b) a representative of the Ministry of Agriculture and Public Lands appointed by the Minister ;

(c) the administration of the insurance department and the Chief of the livestock insurance section.

The Council examines the report of the Section, and it rests with this body to decide if it is advisable to amend the constitution, and as to the measures essential to the development of the insurance scheme. It also falls to the Council to examine and pronounce on any representations made by associations that are either not admitted or excluded from the section. The Council fixes the amount of the premium. Decisions are carried out by the section after ratification by the Minister of Agriculture.

The insurance premium is fixed by decision of the insurance section, confirmed by the Ministry of Agriculture. Ten per cent. of the premium is assigned to the reserve fund of the Section and the remainder is used to pay that half of the compensation payments which falls upon the associations. Full payment of sums in compensation which have to be paid out in the course of the year to insured persons, is undertaken by the section, one half of such payments falling on the associations, while the other half is met by the section. If the portion of the payments falling on the associations cannot be covered by the annual premiums, the deficit is the first charge on the reserve funds of the associations, although not more than two-thirds of this fund may be utilised for the purpose. If however there is still a deficit, it becomes a first charge on the reserve fund of the section.

The reserve funds are constituted as follows :

A. The reserve fund of the section itself is formed from : 1. The existing reserve fund of the Section ; 2. the State subsidy ; 3. ten per cent. of the annual insurance

premiums; 4. the interest on the foundation capital of the section; 5. the interest on the reserve fund itself; 6. five per cent. yearly on the receipts from the contagious diseases fund; 7. one per cent. on the livestock export charge; 8. grants given by the general councils; 9. fines and other receipts.

The following charges are covered by the reserve fund of the the section: half the compensation payments made for deaths of stock or for compulsory slaughter; the administrative expenses of the section; and the deficit in the case when more than two-thirds of the reserve fund of the associations would be necessary to meet the compensation payments.

B. The reserve fund of the associations is constituted as follows: 1. The existing fund of the associations; 2. the interest on this fund; 3. the surplus of the annual insurance premiums; 4. five per cent. charge on the sums coming from the rent of property belonging to the funds for stock raising; 5. the fines imposed by the administrative council of the associations.

The State has granted to the section a sum of 15 millions of *levas* as foundation capital. In accordance with the law the section receives from the State an annual subsidy which may not be less than the sum of 2,500,000 *levas*. During 1930 only one million *levas* was paid (1). If this subsidy is insufficient to cover the share of the compensation payments for which the section is responsible, it is supplemented by the State.

In the annual report for 1930 of the Central Bank the desire is expressed that the law on livestock insurance should be amended and that compulsory insurance of livestock should be introduced.

The Report of the Central Co-operative Bank contains as for hail insurance various tables which give a complete idea of the position and development of livestock insurance. In the first of these is given the number of the associations, the membership and the number of head of livestock insured by district. Another table presents statistics of the diseases from which the insured animals have died during the year under review. There is also a table showing the profits and losses of the livestock insurance section for the financial year under consideration, and finally a table on development of livestock insurance.

The following is a table giving certain statistics for the year 1930:

Number of associations	Number of members	Oxen and cows	Buffaloes	Horses	Mules	Asses	Goats	Total head
840	81,501	41,700	12,392	11,710	148	187	286	66,403

Sums assured	Premiums	Compensation payments	Head of stock on which compensation was paid	Proceeds of sales of hides, etc. of these animals	State subsidy	Grants from district councils
levas	levas	levas		levas	levas	levas
345,958,240	6,508,640	4,518,620	1,585	920,020	(1) 1,500,000	55,662

(1) Out of the annual State subsidy fixed by the law at a minimum of 2,500,000 *levas*, only 1,000,000 *levas* have been paid up according to the Report of the Central Co-operative Bank.

As regards developmeht of livestock insurance in Bulgaria the following is a table relating to the period 1912 to 1930 :

Value of 100 gold fr. in Bulgarian levas	Years	Number of asso- ciations	Number of mem- bers	Number of insured animals	Sums assured  levas	Premiums  levas	Head of stock on which pay- ments were made	Proceeds of sales of hides etc. of these animals  levas	Compen- sation payments  levas	Average compen- sation paid  levas
100 —	1912	3	35	93	17,600	191	1	—	126	—
100 —	1913	3	22	78	13,695	314	8	175	861	107
100 —	1914	34	629	2,332	355,157	4,269	54	1,138	6,790	125
128.44	1915	79	1,025	4,167	817,390	9,566	147	7,010	22,838	155
136.92	1916	25	380	1,569	354,370	3,952	59	3,793	9,625	163
173.92	1917	24	567	1,854	690,690	7,531	34	3,690	9,819	274
166.54	1918	19	438	1,683	1,283,640	14,700	55	9,146	26,161	475
466 —	1919	25	634	2,546	4,374,620	69,133	181	33,135	91,723	606
1,247 —	1920	20	850	3,082	11,723,300	192,849	132	80,533	185,296	1,403
2,175 —	1921	26	700	2,461	10,238,290	179,098	118	70,462	315,220	2,671
2,896 —	1922	31	821	2,821	12,661,450	196,011	120	96,774	217,156	1,809
2,446 —	1923	43	1,047	3,296	15,956,650	200,291	96	87,531	206,194	9,085
2,685 —	1924	94	1,944	4,605	26,531,000	433,311	185	103,703	546,897	2,955
2,685 —	1925	208	4,483	10,974	56,163,900	885,608	380	251,394	1,290,290	3,584
2,685 —	1926	385	9,677	22,949	129,102,090	2,569,940	706	428,798	2,118,816	3,608
2,685 —	1927	580	20,618	48,016	251,793,800	3,969,318	1,500	796,436	4,444,516	2,662
2,685 —	1928	663	29,920	69,607	337,028,900	6,228,420	2,142	997,392	5,736,686	3,143
2,685 —	1929	835	31,396	69,598	343,829,500	6,208,680	1,883	1,001,162	5,150,409	3,267
2,685 —	1930	840	31,501	66,403	345,958,240	6,508,740	1,585	920,020	5,613,620	3,427

F. A.

## ECONOMIC AND SOCIAL CONDITIONS OF THE AGRICULTURAL CLASSES

### Rural Women's Organisations and the Agricultural Crisis.

A one-day Conference was arranged in London on 27 May by the Liaison Committee of Rural Women's and Homemakers' Organisations, a women's international Committee with headquarters in London, representing about 50 organisations. The object was to discuss the position of the countrywoman in the world economic crisis, the extent to which she is specially affected and the special services she can render towards its eventual remedying. The meeting was well attended and in addition to a number of visitors included representatives of the organisations and associations of rural or farm women in the United States of America, Germany, Estonia, Norway, Sweden, Finland, Australia, New Zealand, Kenya, Union of South Africa, etc.

Among the papers and addresses contributed (1) special interest attached to the following :

(a) The Position of the Countrywoman in the World Economic Crisis from the Old World Point of View, by Frau Kuessner Gerhard, president of the Country Housewives' Association of Germany (*Reichsverband Landwirtschaftlicher Hausfrauenvereine*) ; (b) The Position of the Countrywoman in the World Economic Crisis from the New World Point of View, by Miss Eunice H. Avery, Lecturer on international subjects, United States of America, and (c) The International Significance of the Work of Countrywomen by Mrs. L. E. Howard, Chief of the Agricultural Service, International Labour Office, Geneva.

(1) Material taken from reports communicated by the Liaison Committee of Rural Women's and Homemakers' Organisations, 26 Eccleston Street, London.

A brief summary of the chief points in these three addresses follows :

(a) After indicating the main features of the crisis as affecting the farmers of the Central and Eastern European countries, Frau Kuessner Gerhard proceeded to discuss the special position of the farmwomen, more particularly in Germany. Morally, the present situation is perhaps felt even more acutely by the woman as she is usually more attached to the soil than the man, and realises more vividly than he the evils of unemployment and detachment from the land that now threaten to be almost inevitably the lot of the next and future generations.

On the material side too the crippling effects of the shortage of money are even more acutely felt in the farm household, which is the woman's province, than on the farm which is the joint concern of both and this for the following reasons :

1. — There is a tendency to incur the least possible expenditure for the household which, although it fulfils the important part of feeding and clothing the farmer and his family, is none the less usually regarded as not productive, in the sense that it yields no items on the receipts side of the balance sheet. Hence any ready money available is spent by preference on the farm, and all purchases of labour saving household appliances are deferred.

2. — Marketing of produce for which by custom the woman is responsible, (eggs, dairy produce etc.), is usually less well organised than the marketing of field crops, and requires proportionately more expenditure of time and energy.

3. — Owing to the crisis there is more call on family labour, and the woman's hours of work in field and cowshed, and generally on the farm, are in consequence longer. In the course of an enquiry carried on recently in Württemberg by Prof. Munzinger, it was found out that the hours of work on a number of farms in South Germany were on an average 12 to 14 for the men, and 15 to 17 for the women. An investigation made by the *Union Centrale des Associations Rurales Féminines* has brought out the fact that in almost all countries there is a great increase in the number of women working in the fields even in countries where it had not been the general custom previously. In addition, in connection with the recent development of more precise and scientific methods of farm accounting it is of interest that the work of book-keeping, on the small or family farms, is usually undertaken by the farmer's wife or daughter.

On the other hand the crisis, by bringing about changes in farming methods, is affecting the woman in another way. In many districts the most important farming receipts now come from pigs, dairy products and eggs, in other words from the departments under the care of the farm woman.

As regards steps taken to remedy the general situation, the work done by the the Country Housewives' Association of Germany in organising market stalls in country districts and shops for country women's produce has been of great value. The stalls are under the management of the local associations and are open twice or three times a week for sale of local produce. All goods are marketed under strict regulation in regard to standard and quality and with careful attention to market requirements. The shops which are opened in centres served by country districts are owned by the Association (*Reichsverband*) itself, and are managed entirely in the interests of the countrywomen producers of poultry products, fruit, vegetables cheese, preserves, etc. By special concession of the Ministry of Finance, taxes are levied on these shops at a lower rate.

In Germany it is becoming the practice for the experienced country housewife to undertake the training of young girls and women for household work on the farm. Such training is carefully organised on a two years' basis with final examinations.

In addition in some districts there are courses for young women in farm and farm household work which include instruction in the keeping of farm accounts.

(b) It is well known that the farmer's standard of living in the United States is high as compared, speaking generally, with European conditions and the farm woman, besides enjoying more social advantages owing to the possession of a car, etc., is usually equipped with labour saving devices of the most modern type. In addition the great extension of broadcasting has effectively broken down any remaining isolation. An interesting result of the broadcasting instruction was noted by the speaker. Special talks are given to women on diet, cooking and general household management, and it is stated to be in consequence of these that the American farm dietary has come to include a more adequate proportion of the fruit and vegetables grown on the farm.

The effect of the agricultural depression and the low prices paid for agricultural produce is undoubtedly in the States to give a certain advantage to the owner of the small farm. It is beginning to be realised that even when no profits are to be made, farming provides, and is the only industry so providing, subsistence for a man and his family. Miss Avery gave an illustration of this truth from the story of a district in Arkansas, where the effects of the agricultural depression had been aggravated over a period by a severe drought. On the advice of the County Visitors, or Government Advisers in agriculture and domestic science, the inhabitants decided to plant vegetables and fruit rather than wheat and maize, thereby ensuring crops that could be watered by hand, and attended to by the women and young people, and would supply the means of subsistence. A year later the village could not only feed itself but preserved food stuffs were available for future use and for sending to other districts.

Speaking generally, there is a strong movement in the agricultural districts of the States towards subsistence farming as a remedy of the evils arising out of the crisis, and in this movement the country women are taking a large share and can do much to ensure success.

(c) In dealing with the subject of the international significance of the work of countrywomen, Mrs. Howard stressed the possible activities of associations of countrywomen in addition to those of individual farm women in the direction of solving problems arising out of the world crisis. Among the many factors in the present agricultural situation, the following may be selected as basic: 1. the great and disconcerting instability of financial and economic conditions; 2. the technical changes of a far-reaching character taking place in some branches of agricultural production; and 3. the change in the methods of attack on social problems due to the influence on outlook in regard to social and labour problems of the accumulated research and investigation work of previous decades.

To meet the unstabilised economic conditions, it is possible that farm women, acting on co-operative principles, might often increase cash takings by initiating the marketing of their "side-line" products. Thus in Canada, the Saskatchewan Egg and Poultry Pool, a co-operative organisation constituted almost entirely of women, was in 1928 enabling about 18,000 farmers' wives to supplement the farm income. Various minor schemes of this type might be attempted, but the individual is seldom in possession of all the facts governing her local market, and advice about local marketing opportunities, location of booths, etc., is precisely the work which can be undertaken usefully by the local association. The rural women's organisations are in a position also to arrange for any necessary instruction on the preparation and preservation of food, with special attention to the utilisation of the products of the farm and of material which may otherwise tend to be wasted. It is possible that some



interchange of practical information under this head between different countries might be useful, together with some comparison of the facilities for provision of instruction. Such instruction is in every modern country an essential contribution towards the utilisation of spending power, and a link in the chain of economic effort. Resolutions on the subject might from time to time be with advantage drafted by the farm women's organisations and forwarded to competent bodies, such as Government Departments or Chambers of Agriculture.

The changes in agricultural technique caused by the introduction of machinery, the experimental work in animal husbandry, etc., are likely to be permanent and it is unlikely that there will be any general continuance of pre-war technique in farming. The use of machinery is of supreme importance; there is still however in many regions an unwillingness to adopt machine methods. It is suggested that if the countrywomen — through their organisations in such districts — were induced to accustom themselves to the use of simple household machinery, and would urge the purchase, when possible, of the proper household tools, they would as it were create a modern outlook within the farmhouse, and the introduction of the simple machine for farm use would doubtless follow.

As regards the third point, — the importance of definite scientific information accumulated over a period of time as affecting the attitude towards and action taken in respect of social and labour problems, — there is still a noticeable lacuna, observed by the International Labour Office, in regard to such information on the place and work of women in agricultural and rural life. The rural women's organisations in the different countries would do a great service by organising where possible first-hand local enquiries on such subjects as: division of the countrywoman's day between her diverse duties; the actual household budgets of rural households with a view to ascertaining how far the present earning capacity of agriculture is sufficient for the daily needs of the workers. Some work might even be done towards clearing up population questions. Statistics relating to the female part of the agricultural population in different countries are seldom comparable, as the definitions adopted for the census returns vary, and in fact often vary also for the succeeding censuses carried out in the same country. Sound statistical information is the basis of all modern scientific social effort, and it is greatly to be deplored that any obscurity whatever should exist in regard to such subjects as the classification of groups of women in rural populations, the needs of rural households, or the volume of professional work contributed by the farmer's wife or daughter to the carrying on of the farm business.

Speaking generally, the problems appear in similar forms in many countries, and the principles which apply to their solution are internationally applicable simply because the household and the farm (*i. e.* the home and the profession) are so closely allied in every country. This being so, an active interchange of information should be very useful. Country women's organisations might well specialise in the direction of interchanging information from country to country. The establishment of small international working committees might be considered, to deal with specialised problems, *e. g.*, a preservation of food committee, a household equipment committee, an education committee. An international committee on the social problems arising out of farm household work would be especially valuable. In other words a sustained and organised effort to interchange information on *selected* topics will lend outstanding importance to any opinions which organised country women may wish to enunciate, since such a clear basis of accurate facts from a series of countries is still, in spite of the efforts of international bodies, wanting in many international fields.

In conclusion there was a general consensus of opinion among those attending the Conference that any solution of the problems arising out of the present crisis must largely depend on a new conception, at once simpler and more efficient, of the standards of living, together with a fuller co-operation in the promotion of the general welfare, and that these elements are being and should in the future be increasingly supplied by women, and in particular by country women in association.

C. H.

## BIBLIOGRAPHY ON ECONOMIC AND SOCIAL QUESTIONS

Assekuranz-Compass. Internationales Jahrbuch für Versicherungswesen XL, Jahrg. Wien, 1932, pp. XXI-1376.

[The 40th volume has just been published of the International Yearbook of Insurance founded in 1893 by Gustav J. Wichniowsky. This publication contains most useful information of the insurance societies operating in 57 countries including 31 in Europe. For a large number of societies, the Yearbook publishes the statements of accounts for 1929-30. In the preface the author states that he was obliged this year, in consequence of the increasing gravity of the general economic crisis, to omit the general considerations in regard to insurance which in the previous editions appeared at the beginning of the sections devoted to each country. On the other hand it has been possible to introduce additions and improvements in respect to the European countries]

BOWMAN, Isaiah: The Pioneer Fringe. American Geographical Society, Special Publication 13. New York, 1931.

[The volume is divided in two parts. Part. I composed of 7 chapters deals with pioneering in general, its historical and economic background, its hardships, its gains and losses, and the degree to which the advent of machinery has facilitated the irresistible trend towards "the border". The author states that no rule has been found to account for the ways and manners of pioneering. In fact, he says "The reasons that impel men to seek the border, are as varied as humanity itself". Until comparatively recent times, pioneers looked for the best land they could find and moved on until they could settle down. In the last few decades science has taken a hand in helping the work of the pioneer. Most of the best land available, Mr. BOWMAN says, has already been occupied by people who have developed it in a profitable way. The trend beyond the frontier continued, however, and scientific methods came into play and the "second wave of pioneering" began. To-day there is a sort of science of pioneering which interests Governments themselves. The failures of former times are lessened by scientific mapping of available land, introduction of machinery, ease of communications either by rail or motorcar. The railway has played a very important part in facilitating the work of the pioneer, a work which continues in spite of difficulties. "With a complacency and an ignorance that matches anything in the history of thought which we now condemn", says the writer "the end of pioneering is announced. No more of its left to do anywhere in the world, said the head of a Government Bureau only two or three years ago. A historian takes a bookful of words to prove the same thing with equal conclusiveness. An economist tells us that we need no more land, witness the millions of arable acres now left untilled in regions of close settlement in the United States. The answer to this statistical conclusiveness is made not by a few wandering bands of chronic pioneers, but by a host, that numbers millions". The land invites the willing to work and dare.

All this the "Pioneer Fringe" shows with a careful analysis of conditions where the work of land seekers has been active in the very hard beginning and is active today in the parts of the world where there is land to be conquered: be it in frozen regions which until recently were believed inaccessible and useless to man, the virgin forests of Brazil, or the hot marshy regions of equatorial Africa. All races of men under all latitudes are active at this work of conquest which nothing seems to be able to stem.

From these considerations of a general character, the author passes to an analysis of the actual work of pioneering in the United States, Canada, Australia, South Africa, Siberia, Mongolia and Manchuria, and lastly in the South American Hinterlands. This constitutes Part II of the book and consists, like the Part I, of seven chapters.

The pioneer conquest of the great American West, which is dealt with in Chapter 8, is naturally mostly of a historical character, as the conquest is now completed. Chapter 9, dealing with the Canadian Fringe of settlement, gives the reader a vivid picture of the advance of the pioneer towards the sub-arctic region. The part played by the Railway in fostering the conquest of this part of the American Continent is illustrated both by text and reproduction of very interesting photographs. Australia and Southern Africa come next under the painstaking observation of the writer, who in chapters 10 and 11 gives a clear idea of what has been done, and of the prospects for the up-to-date, machine-helped pioneer, particularly in Australia where enormous tracts of land are still available.

After a survey of pioneering in Siberia (Chapter 12) the author takes up the examination of pioneering conditions in Mongolia and Manchuria. The title to this chapter — A Modern Invasion — is indicative of the fact that the races which have started their move "beyond the border" are in many ways new to the work of pioneering as now understood. The possibilities of both Mongolia and Manchuria appear quite considerable. But we are just at the beginning of an undertaking not devoid of dangers, of potential conflicts.

The last chapter (14) deals with the South-American Hinterlands. The author is once more on familiar ground and the subject is treated with exhaustive amplitude. The peonage system, the survival of the plantation system in some important parts "because it is economically best" in some places, "while in other places it is a device employed by the landowners for maintaining an essentially aristocratic system based upon land", the means of access to already settled sections and to the railways, the latifundia in Chile, the haciendas in Peru, conditions in Ecuador and Bolivia, are interestingly described to the reader in what we might call the first part of chapter 14. The second part of the same chapter deals with the "Tropics as a Pioneer zone". The Author finds that the white man cannot possibly live there even though science may help him to conquer the many deadly diseases proper to the Tropics.

Conditions in Northern Paraguay, the Gran Chaco of Bolivia, the Matto Grosso in Brazil, the Piedmont Border in Northwestern Argentina are next examined and illustrated. The chapter ends with a detailed account of conditions in Patagonia, "no longer world's end, a no-man land, a symbol of remoteness".

The volume is full of excellent photographs illustrating the work of the pioneer in all countries and greatly adding to the value and interest of the study, which is perhaps the most comprehensive work of its kind now available for the student of this subject].

Water and Grass. A Study in the Pastoral Economy of Southern Europe, by E. H. CARRIER, M. A., M. Sc., F. R. Hist. S. Christophers-London [1932].

[The book under review, in the words of its author, mainly "deals with the migratory pastoral industry, together with the economic, social and political problems to which the seasonal wanderings of flocks and herds and their human attendants give rise". The story of the "Great Transhumance" is told separately for each country, in its development from ancient to modern times, the different types of pasture are discussed and a review of the pastoral industry in the different countries of Southern Europe "in order of their historical importance" follows in each case the discussion of the social and economic side of the problem. This discussion and review begin with Italy and ancient Rome. Conditions in the various countries of Southern Europe, from Spain to the Balkans, are then examined and the special features of the pastoral industry in each country are dealt with in detail.

A bibliography and a glossary of pastoral terms greatly add to the usefulness of this important study]

GUMPERZ, Julian: Die Agrarkrise in den Vereinigten Staaten (Veröffentlichungen der Frankfurter Gesellschaft für Konjunkturforschung, herausg. von Dr. Eugen Altschul, N. F. Heft 2). Hans Buske Verlag, Leipzig, 1931, pp. XII+182.

[As the Editor of the series of publications of the Society points out in his Foreword, the present economic situation is rendered especially grave by the simultaneous development of an industrial and an agricultural depression, and the problem is to determine the causes and the conditions of this coincidence. The agricultural situation in the United States is especially interesting from this point of view, because it is there that the capitalistic transformation of farming, which turns the farmer into a

business man, has gone far enough to involve agriculture in all the vicissitudes of the business cycle. This transformation of agriculture is more or less universal, but in other countries traditional forms have greater vitality and the process is not so far advanced. As Dr. Altschul puts it, the book under review "not only describes the complicated process of transformation in American farming, but also represents a contribution to the theoretical analysis of a definite trend of evolution which, from the economic and social point of view, intimately concerns the European economic system. What we observe here, is not an isolated phenomenon, but a typical case which comes about necessarily the moment agriculture finds itself involved in the general process of capitalistic development."

The scheme which the writer applies to the interpretation of the agricultural evolution of the United States, is entirely based on the acceptance of the Marxist conception of the inherent antagonisms of capitalism as a social and economic system. In the United States, the turning point was reached with the exhaustion of the reserves of land which was available free to potential settlers. While, up to the close of the last century, land was the reservoir which absorbed the surplus of urban labour, now it is industry that is called upon to absorb the surpluses of rural population. With the penetration of capitalistic methods into the agricultural industry, the increase in the average size of holdings and growing mechanisation, independent family farming, formerly the foundation of the social and political system of the U.S.A. tends to lose ground, and labour released by this process has to seek employment in the industries and other urban occupations. The family farmer, now faced with large capitalistic concentration both outside and inside agriculture, finds himself in desperate straits, and all efforts of the United States Government, designed to help him to organise for resistance, mostly by means of co-operation in marketing, are of no avail as not removing the real cause of his weakness, his inferiority as a producer.

"The crisis through which American farming is now passing is a crisis of the small family farm which is no more able to withstand the onslaught of the industrial revolution in agriculture": such the diagnosis of the situation by Dr. Gumperz.

The high degree of commercialisation of American agriculture which puts 80 per cent. of its output on the market, makes it particularly sensitive to changes in prices, and enables even a slight fall in the price level to have disastrous effects upon the farmer. And as there exists in the United States a very large class of farmers whose economic position is generally precarious and who live on a marginal income, a depression such as the present is bound to be acutely felt and to cause great distress.

The technical progress of agriculture brings about a great increase in the productive capacity of American farming, and this increase would appear to the writer to mean that "the Malthusian doctrine of population and the Law of Diminishing Returns are practically and theoretically rendered invalid": a point which may be conceded only in part. In fact, while such an increase of productivity, if continued indefinitely, will solve the population problem, it will in no way affect the validity of the Law of Diminishing Returns as a theoretical proposition.

To the writer following as he does the Marxian scheme of evolution, the present crisis, in spite of the sufferings and losses it causes, appears in the light of a constructive process. "While capitalism destroys the obsolete methods of agricultural production, it converts agriculture, which hitherto had been the staunch bulwark of the old, into a hearer of progress. The human race stands on the threshold of the greatest historical decisions." "What hitherto had appeared, in spite of its real importance, a rather minor detail of the great picture of economic processes as a whole, namely the end of the manufacturing stage of agricultural capitalism, will now become an event which, when developed to its ultimate consequences, will change the life of the population of this planet completely and in every domain."

One may not always agree with the views of the writer of this interesting book as to the origin and nature of the processes he describes, but the reader will gain a deeper insight into the social and economic background of the crisis, only too often hidden from the eye of the student by its external manifestations. Whether the dogmatic scheme of the writer is accepted or not, the fact remains that we are in the midst of a process of structural changes in agriculture, and we must seek for a synthetic view of this process].

I salari nell'agricoltura tratti dai contratti di lavoro dal 1913 al 1931. Confederazione Nazionale dei Sindacati Fascisti dell'Agricoltura, Rome, 1931-IX.

[The enquiry into wages in Italian agriculture recently published by the National Confederation of the Fascist Syndicates of Agriculture is supplementary to that of

1930 on the conditions of living of the agricultural workers in Italy. The figures shown relate to the daily wage paid in 1913-14 and from 1919 to 1931 to day farm labourers for ordinary farm work. The wages are shown for each province. An index has also been calculated taking the wage for 1913-14 as 100. Every table is accompanied by a diagram and by some notes illustrating the principal lines of the last labour agreement. The wages are taken from the labour agreements. For the years immediately preceding and immediately following the war it has not always been possible to base these on the agreements, partly because these were not all in existence and partly because the multiplicity of the workers' organisations gave rise to the establishment of several types of contracts. In consequence, it has been necessary to establish the figures by examining farm accounts, and by consulting the agricultural organisations and various publications.

A special chapter is devoted to the different types of wages: the wage paid over a fixed period, the payment per hour, cash wages, wages in kind, piece or job work, the progressive wage, sliding scale, individual and collective job contracts. The wage is next considered under other aspects, according to the character of the work, the hours of work in different seasons, the age of the workers, etc. In view of the close relation between feeding and the question of wages some notes on the dietary of the farm worker are added. A chapter on the corporative wage forms the conclusion].

L'organizzazione sindacale agricola del Fascismo. Confederazione Nazionale dei Sindacati Fascisti dell'Agricoltura. Roma, 1932-X.

[In this publication an account is given of the organisation of the Italian agricultural classes, as effected by Fascism, from the beginning of Fascist syndicalism up to 1932, and a comparison is made between the post-war Italian organisations previous to Fascism and the European organisations of agricultural workers based on the class principle. The volume also contains some chapters on the Italian agricultural population, and on the different occupational types of Italian agricultural labourers, share tenants, etc., and on the organised labourers. It further treats of the degree of development attained by the different National Federations of unions of persons employed on farms, tenants who are direct cultivators, share tenants on the basis of half the produce or otherwise, wage earners and day labourers, skilled farm workers, shepherds and breeders who manage their stock rearing. The proportion of the different classes is separately examined for each of the Italian provinces].

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[This small volume, published on the occasion of the XVth International Congress of Agriculture at Prague under the auspices of the Czechoslovakian public authorities, contains, in a series of articles written by Czechoslovakian specialists, on the subject of agricultural education, precise information on the present position of agricultural instruction, according to the different types of schools and institutions which deal public instruction in the rural areas in Czechoslovakia].

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Due to unforeseen circumstances not within the Institute's control, it has not yet been possible to publish the June number. In order to maintain the series complete it will be forwarded as early as possible.



# MONTHLY BULLETIN

OF

## AGRICULTURAL ECONOMICS AND SOCIOLOGY

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1932

No. 7

### ECONOMIC AND SOCIAL CONDITIONS OF THE AGRICULTURAL CLASSES

#### **Broadcasting as an Instrument of Instruction and Propaganda in Rural Life.**

However useful broadcasting may be in towns, it must be regarded as essential in country districts. There is abundant justification for describing it as essential; in the first place the small rural centres are usually without secondary schools, libraries or other means of self-education for the population, while broadcasting provides a form of simple, varied and attractive instruction. Through this means farmers, and in particular small farmers, can become acquainted with better farming methods and ways of protecting their own interests; further it offers in places where there are no places of amusement, not even a small cinema, entertainment of an educative and attractive type; and finally it may serve effectively to counteract the drift to the towns.

If however these objects are to be attained, a public character must be given to rural broadcasting so that all concerned may without difficulty and if possible without expense enjoy the transmissions arranged expressly for them.

Educational broadcasting, including agricultural, has made remarkable progress in a number of countries over the last few years, but except in Russia it does not appear that much trouble has been taken to find the best way to attract the majority of farmers. It is obviously almost useless to broadcast for the benefit of agriculturists, unless there exist receiving sets widely distributed in the country districts at points where people can readily gather.

Generally speaking, in all the divisions of the rural commune there is a primary school. If a receiving set is installed in each school, not only can the children listen to transmissions made for their benefit, but also the adults at fixed days and at fixed times can do the same.

Listeners will be attracted by the novelty, but the transmissions should be not only interesting but also amusing, the serious discourses being interspersed with short stories, up to date news, music, etc. The desire to listen must be stimulated and it is essential especially at first not to weary the listener with over long communications. Persons who regularly attend informative lectures might be admitted in the evening to listen to plays, concerts and operas.

The broadcasting talks to children might well include certain agricultural subjects, as the school children of today will be the farmers of tomorrow.

Subjects relayed for farmers might in the first place be the price report of commodities and the weather report with the forecasts for the next day and for the week, and subsequently for each region and in each season useful hints in connection with the weather forecasts.

It is not intended to set out here a detailed programme of the lectures that should be broadcasted for farmers. The essential point is to inspire them with a love of the land and the desire to become acquainted with the best means for utilising its resources; they need instruction in the principles of rural economy, the right procedure for obtaining the highest profit from any crop, the most efficacious measures for control of parasites, the hygiene of the dwelling house and stable, stock raising, proper use of fertilisers, etc. All this should however be imparted in a simple and interesting manner, readily intelligible by everyone, and in addition replies should be given to special questions addressed by the farmers themselves to the broadcasting company. Such replies may be so phrased as to arouse interest in all farmer listeners. In this way broadcasting may really assist in the material and moral improvement of the conditions of life of agricultural workers.

The following notes represent information obtained from the International Broadcasting Union at Geneva on the development of agricultural broadcasting in certain countries (1). It will be observed that the agricultural service is variously organised in the different States. In some it is entirely under the management of broadcasting undertakings, in others by these in collaboration with private or official organisations, and in others it is under Government direction.

*Germany.* — For agricultural questions, the societies are closely in touch with the Chambers of Agriculture in the different provinces or districts. These in consequence of their relations with the Ministers of Agriculture of the different German States and with the *Reichsministerium für Ernährung und Landwirtschaft* are favourably placed for precise gauging of the requirements of listeners in the country and of the present facilities for instruction.

The representatives of all the groups concerned form an advisory committee which meets regularly once a month.

All the German stations transmit a meteorological report three to five times a day and every day agricultural information of every kind: prices of agricultural products, sowing conditions, crop forecasts, etc.

Twice a week the *Deutsche Welle* broadcasts lectures dealing with questions and problems of agriculture, the listeners being mainly small land owners. Experience has shown that these lectures should be suited to main seasonal periods of farm work.

Special lectures are also given on a variety of subjects: e. g., on wheat growing, etc. Sometimes a series of lectures is organised on the same subject so as to enable listeners to become acquainted with a variety of opinions on the same subject.

(1) "Radiodiffusions agricoles". Informations en possession de l'U. I. R. au 14 mars 1932. Union Internationale de Radiodiffusion. Serie n° 3040, 14 mars 1932.

The following agricultural talks are repeated regularly:

The Farmer's Hour.

Lectures on agriculture.

Lectures on horticulture.

Review for the use of lovers of garden flowers.

Out of the total numbers of broadcasting talks or lectures, 12 per cent. are devoted to agriculture.

The course organised by the *Deutsche Welle Ges. m. b. H.* on agriculture, three times a week, deal with the following subjects:

Broadcasting in the service of the farmer – Soil and conditions for plant growth – Decomposition and putrefaction – Water and its influence on plant growth – The different kinds of soil and their influence on plant growth – Agricultural machinery and cultivation of lands – Land drainage – Manuring of crops – Stable manure and stable refuse – Preparation and utilisation of stable manure – Green manuring – Nitrogenous fertilisers – Phosphatic and potassic fertilisers – Employment of chemical manures – Liming and its effects – Seeds and supply of sound seed – Sowing, the right time, the right depth and method – Attention to sown land by manuring and cultivation – Frost, acidification, putrefaction of seeds – Control of weeds – Harvesting – Grasslands – Pasturages – Potato growing – Cultivation of pulse crops – Forage crops – Vegetable growing – Fruit growing – Methods within the scope of any farmer for increasing field crops – Agriculture and capital engaged – Invested capital (*Grundkapital*) and working capital – Farm work and the head of a family farm – Considerations on which the farm management should be based – Alternation of kinds in sowing – Spring cultivation – Methods of herd management within the reach of every farmer for increasing live stock yield – Growing and utilisation of forage on the farm – Rearing of calves – Feeding of cows in milk – Feeding of slaughter cattle – Care of sows and the rearing of piglets on the farm – Method of fattening pigs – Importance of the different branches of stock farming in relation to economic life – Poultry keeping – Collective purchases and sales – The necessity of keeping accounts even on a small family holding – Final talk

*Austria* — A committee consisting of representatives of agricultural experiment and educational institutions and of agricultural authorities meets to fix broadcasting programmes.

The Austrian organisation broadcasts regularly once a week a "Farmers' Hour" for the small farmers. The following were among the subjects of these talks in 1929:

Importance of building up foods – Parasites injurious to trees – Technical methods in agriculture – Crop results in 1928 – Nutritive capacity of soils in Austria – Utilisation of peat for agricultural requirements – Satisfactory and unsatisfactory kinds of fruits – Gardening and fruit growing at Klosterneuburg – Cultivation trials and their significance as regards plant physiology – Damage done to cereals during the winter season and means of prevention – Weed control – Protection of cereal growing in Austria – Development of the dairying



industry in Austria — Cropping on small holdings — Destruction and utilisation of carcasses — Frost damage and means of prevention — Treatment of stable manure according to the new methods — Place of the horse in the mechanical age — Instruction of girls and young women in the country — Method of preventing contagious diseases among live stock.

From time to time a talk is broadcasted for gardeners, stock farmers, etc.

There is also a programme of agricultural broadcasting for schools in Upper Austria.

*Belgium.* — Under the auspices of the *Institut National de Radiophonie de Belgique*, the Department of Science and Arts organises broadcasting for schools, the programmes carried out by the staff and the apparatus of the I. N. R.

The preparation of the programmes and all arrangements are in the hands of a Committee formed by the Ministry of Science and Art. The chairman of this Committee is the Directeur général de l'enseignement et des sciences, and among the members are delegates of the I. N. R., and of the inspecting and administrative bodies both of State and of independently managed education, thus representing the various types of instruction.

*Radio-belgique* does not organise agricultural broadcasting, but confines itself to issuing a meteorological report daily in the "Journal parlé" at 8.15 a. m.

A foreign organisation, La Radio-Catholique, for which the Radio-Belgique transmits, includes an agricultural communication of 10 minutes weekly on its programmes.

*Denmark.* — The Danish company works in close collaboration with the agricultural organisations which proposes the lecturers. It broadcasts an agricultural lecture fortnightly as well as monthly lectures dealing with vegetable growing and poultry keeping; typical subjects are: Pasture management — Plant diseases and their control — Growing of turnips — Stock farming and its importance for the community, etc. These lectures last for 27 minutes.

Details of the organisation of the talks are in the hands of a special broadcasting Committee appointed by the Danish agricultural associations.

*Spain.* — The Spanish broadcasting organisation arranges a popular course on agricultural problems.

On Saturday afternoons and evenings communications are made as to the situation in the principal agricultural centres of Spain, crop conditions and market tendencies. This information is given by qualified agricultural experts.

Every day the meteorological reports are given.

*Finland.* — The limited company *Suomen Yleisradio* broadcasts every week the prices of agricultural products, fertilisers, etc., as well as information on the situation of the agricultural markets.

Two lectures per week deal with questions of agricultural technique and economics. The former are organised by the Central Union of Agricultural

Societies (*Maataloussenrojen Keskusliitto*) which groups 19 agricultural societies and 15 special agricultural societies: the latter by the Central Union of Agricultural Producers (*Maataloustuottajan Keskusliitto*) which safeguards the interests of farmers on the economic side. These lectures deal with prices, co-operation, the market of agricultural products, agricultural credit, etc.

Occasionally the Finnish broadcasting organisation itself arranges lectures dealing with agricultural questions of the day. These are delivered by those of its directors who represent the more important farmers' organisations.

*France.* — A National Federation for broadcasting in country districts was founded in August 1927 with the object of popularising the employment of wireless telegraphy among the rural populations of France and her colonies. It publishes an illustrated review, *La Radio-Agricole*.

This Federation has taken the initiative in broadcasting:

(1) A daily agricultural communication by Radio-Paris (6 p. m. to 6.30 p. m.) including the following items:

(a) Meteorological information and weather forecasts, transmitted by the Office National de Météorologie. This communication is followed by notes on farming in accordance with the indications given by the Office.

(b) A series of notices of interest to farmers and frequently taken from the agricultural papers: Shows and competitions — Reports of agricultural societies — Legislative texts — Colonial questions — Advice to exporters, etc. This section is in the hands of M. Blanchard, Ing. Agron., director of the agricultural department of Seine-et-Oise, treasurer of the *Société Nationale d'Encouragement à l'Agriculture*.

(c) A daily talk of some minutes devoted each day of the week to a particular branch of the subject;

Monday, talk on agriculture by M. Leconte, professor at the *Institut National Agronomique*;

Tuesday, talk on animal husbandry by M. Voiteulier, professor at the *Institut National Agronomique*;

Wednesday, talk on viticulture by M. Marsais, director of works at the *Institut National Agronomique*;

Thursday, talk on horticulture by MM. Lecollier and Marcel, professors at the *Ecole Nationale d'Horticulture* at Versailles;

Friday, talk on rural economy and legislation;

Sunday, various questions.

(d) Quotations and daily official bulletins of the Halles, the Bourse, the trade in fertilisers, according to official information, broadcasted by the *Préfecture de Police*.

(2) Daily comments on the official meteorological report with the object of interpreting the full significance to the farming class.

(3) A weekly bulletin broadcasted by Radio L.L.; Radio Sud-Ouest, Radio-Agen, Radio-Toulouse, Radio-Beziers, Radio-Nîmes, Radio-Lyon, Radio-Fécamp, Radio-Strasbourg, at the days and hours announced by the important T. S. F. periodicals.

The *Société des Agriculteurs de France* arranges each day for a technical talk at the Eiffel Tower which is relayed by the Post and Telegraph Office (P. T. T.) from 1.15 to 1.30 p. m. The following is the list of the subjects treated in the course of the months of July and August 1930:

Details of exports – Details of transports – Kitchen garden borders – Utilisation of paper as soil cover – Tomatoes and melons – The tomato seed industry – Pests of the kitchen garden – Attention to milk on the farm – Diarrhoea in cows – Pisciculture – The position of the market of agricultural labour in France – The crisis in forestry labour – The suppression of the enticing away of foreign labourers – Influence of feeding on pigmeat – Potato blight – Position of the insured person in the case of failure of the insuring body – Present position as to social insurances – Some types of social insurances – Accidents during work on forestry undertakings – The advantage of making a proper statement for insurance – Social needs and the development of insurance – Economic Chronicle.

French stations also broadcast regular courses on arboriculture, horticulture, apiculture, given by professors or other specialists.

Radio-Toulouse broadcasts every day practical advice to agriculturists and Tunis-Kasbash broadcasts meteorological forecasts.

The publishing office of Radio-Paris publish a handbook entitled: "Meteorology at the service of agriculture", which contains the text of lectures read by General Delcambre, Director of the *Office National Météorologique*, into the microphone of the *Compagnie Française de Radiophonie*.

These lectures deal with the general interest of meteorology, organisation and tendencies of modern meteorology, the weather, clouds, atmospheric precipitations, temperature and frosts, hail and storms, and the interest of meteorology for agriculture. The book is fully illustrated.

*Great Britain.* — The B. B. C. makes the following transmissions in regard to agriculture:

- (1) once a month, a lecture broadcasted by all stations and organised by the Ministry of Agriculture. These lectures are given by agricultural experts of distinction and the subjects are treated from different points of view;
- (2) every fortnight a report prepared by the Ministry of Agriculture giving farmers general information;
- (3) every fortnight 15 minute talks for gardening amateurs as well as lectures intended for country women;
- (4) once a week a report of the Royal Horticultural Society dealing with subjects of interest to gardeners and small holders;
- (5) every week day, except Thursdays, fat stock prices supplied by the Ministry of Agriculture;
- (6) three times a week meteorological forecasts under the heading "Latest general information";
- (7) the Bournemouth and Hull stations broadcast conferences organised by farmers' meetings held in these towns on subjects of main interest to farmers;
- (8) during the last two years a series of talks on agricultural questions has been introduced into the programme intended for schools.

For a long time very close relations have been maintained with the Ministry of Agriculture. At first a series of fortnightly talks were arranged lasting 20 minutes beginning at 7 p. m. Experience proved that the listeners preferred a series given by the same speaker, and in consequence these talks were undertaken for some time by Sir Daniel Hall, chief technical adviser of the Ministry of Agriculture. His method was to discuss briefly and simply different questions of general interest as well as new experiments in the science or practice of agriculture. These talks although primarily intended for farmers and farm workers were so planned as to arouse the interest of as many listeners as possible. For certain questions Sir Daniel arranged that other experts should take his place.

From time to time talks on public affairs have been given dealing with the actual progress of matters of importance. In this connection also specialists were engaged to make the communications.

Weekly and fortnightly talks on gardening were usually given from 7 p. m. to 7.15 and from 6 to 6.15 p. m.

Both morning and evening there are 15 minutes talk on quite practical subjects, as for example, bee keeping or poultry keeping.

From 10.45 to 11 a. m. there are talks for housewives, on a number of questions such as fruit preserving, jam making, the health of children, decoration of the home, etc.

*Hungary.* — The Hungarian organisation arranges lectures of different kinds under the title of "The Farmer's Hour".

*Italy.* — The Italian broadcasting organisation devotes ten minutes every day and 15 minutes on holidays to agricultural broadcast messages, that is to say about 70 hours a year and for each broadcasting station. These communications are made between 6 and 7 p. m. On working days the speakers read into the apparatus notes on agriculture dealing with problems of rural life, as well as market prices of cereals, with a view to informing the country people as to the best method to be followed in crop cultivation at the different seasons, in stockbreeding and in organisation of farm work. On Sunday mornings questions put are replied to.

At the present time the Italian Government, by arrangement with the broadcasting organisation is about to establish a special institution with a view to having the schools of the rural communes supplied with receiving apparatus and lessons given that may arouse the interests of the scholars in broadcasting. There will be talks intended for farmers who will be induced to come and listen by the accounts they get from their children.

It is hoped in this way to diffuse broadcasting throughout Italy and especially in the places more distant from intellectual centres.

The financial question, that of the purchase of the 100,000 receivers approximately which will be required to equip all the divisions of the rural communes of Italy, is unfortunately difficult of solution. Much larger capital is needed than the Italian broadcasting organisation has at its disposal. Accordingly the ingenious idea has been devised of establishing a rotation system as follows.

The apparatus available will be distributed among some hundreds of communes where they will remain about two months, to be sent on elsewhere and so on unless they are bought during the period, in which case they remain with the commune. The selling price will be used to buy other apparatus which will be sent to other communes. Local agents are employed as collectors. This "snowball" method does something to remedy the want of capital and to attain the end desired.

*Norway.* — In 1930 *Kringkastingselkapet* has broadcasted:

(1) once a week a "Farmers' Half-Hour", consisting of lectures given by specialists on the different questions which might interest the farming class;

(2) from time to time interviews between different agricultural specialists and a practical farmer,

(3) every day at 1 15 p. m. and 7 20 p. m. the official prices of agricultural products.

In 1931 the lectures have been extended and are now broadcasted for from one to two hours a week.

*Netherlands.* — The Government makes provision for the agricultural broadcasting service, incorporating it with the "Commercial transmissions".

The Royal Meteorological Institute at De Bilt (a government institution) issues reports relating to agriculture and more especially indicates the night frosts or the favourable times for control measures against potato disease.

The news items of the day are also supplied by the Government. They are communicated from Scheveningen to the organisations concerned which publish notes on the exchange and on the news of the day, as well as the latest prices on the national and foreign market several times a day and several days in the week. Information relating to dairy products last for about 5 minutes, that on stockfeeds and on artificial fertilisers for 15 minutes.

The Royal Dutch Commission of Agriculture organises lectures lasting from 30 to 40 minutes. Half hour lectures have also been organised by the Dutch Horticultural Corporation and transmitted by the Hilversum station.

The K. R. O. broadcasts regularly lectures relating to agriculture the first Wednesday of each month at 7 to 7 30 p. m.

The V. R. A. broadcasts every Sunday from 9 to 9.25 a. m. a talk for gardening amateurs or owners of gardens.

In addition the Catholic organisation of market-gardeners, and smallholders, numbering more than 80,000 members, may arrange six lectures yearly.

*Poland.* — The organisation of the programme of agricultural broadcasting is in the hands of a special committee appointed by the Ministry of Agriculture and working in connection with agricultural societies.

The Polish broadcasting organisation transmits:

(1) agricultural communications of from 10 to 15 minutes each day dealing with special questions relating to agriculture; information of the current

prices of products, news as regards the rural life in Poland, information on regulations, laws, etc. These are made by specialists.

- (2) popular lectures on agriculture intended for illiterate cultivators;
- (3) longer lectures on agriculture made by specialists four to eight times per month, in winter more often than in summer, generally in the afternoon.

*Polskie Radjo* organised in November 1931 a special course of agriculture known as "The Popular Agricultural Broadcast University," the object of which is to develop an acquaintance with the agricultural sciences among listeners. The following quotation illustrates the idea of the course: "The way to safeguard and preserve the farm from the crisis, without reducing production, without outlay, using every possible effort to maintain or improve cultivation conditions."

This Agricultural Broadcast University has been instituted by a special Committee, consisting of representatives of the Government, including the Minister of Agriculture and high officials of the Ministry, and representatives of the *Polskie Radjo* and of institutions for agricultural instruction and experiment, in the following way: the whole of Poland has been covered by a network of receiving centres, to the number of 720, each of which includes a receiver installed in a school or on a farm. Each of these centres groups a number of listeners under the direction of a schoolmaster, who undertakes to organise the operations of this University which include:

- (1) information to farmers and farm workers as to the dates of the lectures;
- (2) making known the Agricultural Broadcast University;
- (3) distribution to members of the centres of fly-leaves, hand-books and pictures received from *Polskie Radjo*;
- (4) indication of the questions which are to form the subject of lectures;
- (5) organisation of meetings for the discussion of lectures;
- (6) attention to the regular working of the receiving station;
- (7) despatch of questionnaires for collecting reports on the courses;
- (8) despatch to the management of *Polskie-Radjo* of observations on the subject of the lectures.

The complete programme of the lectures of the Agricultural Broadcast University includes four courses of 10 days each, which have been given as follows:

Course I: 22 November to 1 December 1931, on stock raising, slaughter stock, organisation of farms.

Course II: 11 December to 22 December 1931, on poultry keeping, machine farming, manuring and questions relating to stock raising.

Course III: 17 January to 28 January 1932, on questions of horticulture, beekeeping, details relating to cultivation of cereals, social questions and co-operative societies.

Course IV: 21 February to 3 March 1932, on special questions, organisation of farm households and questions of economy.

A series of talks is organised also under the form of dialogues between farmer and specialists in agriculture.

Before each course a distribution takes place of handbooks and fly-leaves containing summaries of the lectures and explanatory illustrations.

Listeners to the first course received 140,000 fly-leaves, and 1000 handbooks as well as 5000 copies of agricultural journals.

The lectures are given by eminent specialists in agricultural subjects: professors, engineers, breeders and cultivators.

The results obtained by the Agricultural Broadcast University have been up to the present very satisfactory.

The questionnaires addressed to receiving centres have been carefully filled by the listeners and returned

A large number of letters with warm expressions of thanks prove that the initiative taken by *Polskie Radio* has realised the object intended, *i. e.*, the development and improvement of agricultural conditions in Poland.

*Rumania.* — Lectures are given, in accordance with programme, by experienced lectures and by specialists, as for example the group of experts who three times a week discuss present day rural questions on useful lines

*Sweden.* — Two agricultural talks per week, the lecturers and subjects chosen by a special Committee of the Swedish Board of Agriculture (*Kungl Lantbruksstyrelsen*).

*Switzerland.* — The *Radiogenossenschaft* (Bern) broadcasted in 1930:

(1) twice a week at 1 p. m. the latest news of the Price Information Office of the Swiss Peasants' Union and the prices and market quotations of live stock and vegetables, fruit, etc.,

(2) every Sunday from 2 p. m. to 2.30 a lecture on an agricultural subject or on the history of agriculture;

(3) in the course of the week also lectures on the same subject but with less regularity;

(4) twice a day meteorological forecasts;

(5) since the winter of 1929 new weekly lectures for farmers organised by the Department of Agriculture of the Canton of Berne which meets the expense.

The Société Romande de Radiophonie (Lausanne) broadcasted in 1930 every week:

(1) a lecture arranged by the Department of Agriculture, Industry and Commerce, dealing with subjects relating to agriculture;

(2) compulsory vocational courses on specialised subjects for different farming groups; courses for apprentices (twice a week).

*Czechoslovakia.* — In this country agricultural broadcasting has its own independent administration under the Council bearing the name of the *Curatorium* of agricultural broadcasting. All the lectures, bulletins, information, courses, etc., must be previously submitted to the censorship of *Radiojurnal* which also decides the place which they are to occupy on the broadcasting programme.

The central broadcasting administration is in Prague and there are branches at Brno, Bratislava, Kosice, and Moravska-Ostrava, where they work in conjunction with the branches of *Radiojournal* following the same principles.

The agricultural communications consist of the following:

(1) Meteorological reports.

(2) The "Bourse" of agricultural products. Information as regards the financial, economic, technical and co-operative aspects communicated twice daily (midday and 6 p. m.).

(3) Special communications for farmers under the form of lectures, agricultural news, dialogues or short plays, arranged each day, and drawn up by the special service of agricultural broadcasting.

In addition, lectures and extensive agricultural programmes are broadcasted on Sundays. In all there is a total of five hours and three quarters of agricultural broadcasting per week.

The communications are made under the forms of an agricultural journal spoken. The lectures are given by the best experts and practical farmers. Once a week there are special programmes for the wives of farmers.

Attached to the Czechoslovakian stations are also agricultural bureaux supplying information to the central office at Prague, and communicating lectures and information from regions representing different agricultural characteristics, such as Moravia, Silesia and Slovakia.

All the agricultural communications are so given as to be heard in nearly all the regions of the Czechoslovakian Republic.

*Yugoslavia.* — At Belgrade, the "Farmers' Hour" is given once a week, in the course of which talks are given on important problems in scientific agriculture.

At Zagreb, several series of lectures are held on the question of scientific management in agriculture and a series of lectures (one each month) on questions of parasites.

*U. S. S. R.* — The Soviet Postal Administration issued a decree dated 6 January 1930 by which broadcasting was to take a prominent place in the agricultural campaign of that summer.

The different communications specially intended for the rural population may be grouped as follows:

(1) meteorological reports;

(2) miscellaneous information of the day: the exchange, news of the day, market prices for fertilisers, feeds, dairy products, live stock, fruits, vegetables, etc.;

(3) popular lectures on agricultural subjects;

(4) lecture on agricultural questions, made by scientists, professors and specialists on the subject;

(5) agricultural courses to be broadcasted to schools or for adult education.



*International Institute of Agriculture at Rome.* — Agricultural intelligence supplied by this Institute is broadcasted regularly every Friday from 8 p. m. to 8.30 p. m. by the *Ente Italiano Audizioni Radiofoniche*. These communications relate to the most important information telegraphed to the Institute during the week by the different Governments, or may be statements summarising the general crop situation or prospects for the principal products. Communications are made in five languages: Italian, French, English, German and Spanish.

E. MARCHESI

*President of the Ente Italiano  
Audizioni Radiofoniche.*

## INSURANCE

### Agricultural Insurance in Canada

#### HAIL INSURANCE

In Canada hail insurance is effected by two types of institutions: by share companies and by municipal insurance associations, the organisation of which will be dealt with later. Share companies are divided into companies with a Dominion license, and companies holding provincial licenses.

In 1929 (1) there were in Canada 41 share companies of the former type dealing with hail insurance, viz., six Canadian companies, eight British companies, and 27 foreign companies. In 1930 (2) the number of share companies rose to 42, viz., six Canadian, six British and 30 foreign companies.

In the prairie provinces, Saskatchewan, Alberta and Manitoba the intention has been to form an intermunicipal organisation for hail insurance, which will be later described.

In the east of Canada (3) and in British Colombia hail insurance is not very common, probably because hail storms are not so frequent in those areas, and because the diversified farming system makes it less necessary to provide protection against such risks.

The Insurance Act 1917 which has been amended from time to time relates to insurance in general. It contains a provision referring to hail insurance companies in accordance with which every Canadian company licensed to transact the business of hail insurance in Canada must set aside as a hail insurance surplus fund at least fifty per cent. of the profit realised from such business during the year and shall continue to do so each year until or so that the said surplus

(1) Report of the Superintendent of Insurance, Dominion of Canada, Business of 1929, Vol I, p. XXXVIII.

(2) Report of the Superintendent of Insurance, Dominion of Canada, Business of 1930, p. XXXVIII.

(3) GOSSELIN in *The Economic Analyst*, Ottawa, September 1931, p. 9.

fund shall be never less than fifty per cent. of the net hail premiums received during the preceding calendar year. As regards British and foreign companies which are licensed to transact hail insurance in Canada, they are required to maintain assets in Canada in excess of the amount required to be maintained for the other branches of insurance and equal to an amount of at least 50 per cent. of the net total of hail insurance premiums received during the preceding calendar year.

The Treasury Board, at a meeting held on 8 May 1930, authorised the issue, to a company licensed for Fire Insurance, of a license for the transaction of insurance against loss of, or damage to, buildings by hail without any deposit being required in addition to that prescribed by the law for such companies in respect of their fire insurance business.

Provincial legislation exists in Canada for the regulation of insurance in general. In the Saskatchewan law known as the Saskatchewan Insurance Act 1924-25 c. 20 (1) (to quote the law of a Province in which we shall later examine the organisation of intermunicipal hail insurance) in addition to important provisions on the organisation of insurance in general in the Province, (*e. g.* relating to the superintendent of insurance, insurance companies, mutual aid societies, insurance contracts, etc.), special provisions relating to hail insurance. The following is a list of the principal questions dealt with in this part of the law: premium rates, applications for insurance, commencement of liability, expiry of contracts, the information which must appear on the face of any policy, the statutory conditions which must be printed on every policy, in which no variations, omissions or additions may be made by an insurer unless such variations are printed on the policy in conspicuous type and in red ink with the introductory words stating that the said variations are in force so far only as they are held to be just and reasonable, termination of insurance, etc.

Every insurer must before 1 May in each year file with the superintendent the rates of premium to be charged in each part of the Province, and such rates shall be effective until the first day of May in the succeeding year unless changed in the meantime and the change notified to the superintendent at least ten days before being put into operation. The insurer shall not be liable for the losses from hail found to be less than five per cent. of the amount of insurance per acre, and in no case is the insurer expected to compensate the insured person for any loss less than ten dollars except where the acreage insured is 40 acres or less.

The organisation of municipal hail insurance in Saskatchewan will now be described. This province has been chosen because the municipal hail insurance introduced in that province has served as the basis for the systems of municipal insurance in Alberta and Manitoba (2).

The present organisation of this kind of insurance is regulated in Saskatchewan by the Act of 1930 (The Municipal Hail Insurance Act 1930, c 37, s. 1) amended by the Act of 13 April 1932.

(1) The Revised Statutes of Saskatchewan, 1930, Vol. I.

(2) GOSSELIN, *The Economic Annalist*, p. 7

In accordance with the Act of 1912 which introduced this type of insurance in Saskatchewan the townships of the province desiring to combine for hail insurance might be empowered by the Lieutenant-Governor, provided that a certain procedure was followed and that there were at least 25 townships desiring to combine for the purpose, to appoint a Hail Insurance Commission consisting of three members. The function of this body, the chairman of which had to be appointed by the Lieutenant-Governor and the other two members by the mayors of the townships combining, was to fix the premium rates and the allocation of compensation payments. The premiums had to be paid under the form of a tax applied to all assessable lands of the township with certain exceptions. The application of this Act was limited to townships where the rate-payers had voted in favour of this system of insurance. Certain amendments were made to this Act in 1915 and again in 1917.

By the Act of 10 March 1917 this municipal commission was abolished and replaced by an association (The Saskatchewan Municipal Hail Insurance Association) consisting of the representatives of all the townships forming part of the organisation to be described. Several amendments were made to this Act, and later the Act of 1930 was passed and has in its turn undergone amendment.

In accordance with this Act the above Association continues to exist and is to consist of: (a) representatives of all the municipalities which subject to the provisions of the Act desire to undertake jointly with other municipalities compensation of losses in respect of crops growing within the area of all such municipalities and (b) representatives of municipalities which may be admitted to the benefits and rights conferred by this Act upon such terms as the association may direct by by-law.

The Association which is a body corporate has power:

(a) to borrow money for the purpose of carrying out the objects of its incorporation, to hypothecate, pledge and mortgage its property, etc., and to sign bills or other securities for money borrowed or to be borrowed for the purposes aforesaid;

(b) to invest any reserve fund or surplus that may be from time to time accumulated by the Association;

(c) to make compensation payments in respect of crops damaged by hail within the area of municipalities, forming part of the organisation.

The Association may under certain conditions of voting appropriate from its reserve funds sums not to exceed 20,000 dollars for the purpose of subscribing for capital stock in a limited Company authorised to insure crops against loss or damage by hail, provided that all the capital stock is to belong to or be controlled by the association. The Association has a council of nine directors who appoint from their own number an executive committee, consisting of the president, vice-president and one other member of the board. This executive committee has such powers as may be delegated to it from time to time by the directors. The Association may from time to time make such by-laws, not contrary to law nor inconsistent with the Municipal Hail Insurance Act, as may be deemed expedient for certain purposes indicated by the Act. The

directors shall possess all the powers of making by-laws conferred upon the Association, but no such by-law shall be contrary to or inconsistent with any unrepealed by-law of the Association, and the Association has the right to amend or repeal any by-law made by the directors. The Association must close its books on or before the last day of February in each year, and must immediately thereafter have a full and complete audit made of its books, records and accounts by one or more chartered accountants. When the audit is complete, the association must prepare and publish a full and complete report of its operations during the last preceding fiscal year. A copy of such report shall be furnished to the Minister and to the reeve and secretary-treasurer of each municipality under the Act.

In order that a municipality form part of the organisation in question, it is essential that the council of the municipality should, at a regular meeting, resolve to submit to the electors a by-law, drawn in the prescribed form, empowering the municipality to engage in the operations already indicated. The persons entitled to vote upon a by-law are all rate-payers (except a special class) in a municipality. In accordance with the Act, upon receipt before the first day of November in any year of a petition to that effect, signed by no less than fifty resident ratepayers of the municipality, the council shall submit a by-law to the electors. In the event of a by-law receiving the assent of the majority of the voters voting thereon, the council shall at its next regular meeting finally pass the by-law in question, and the secretary treasurer shall prepare, certify and forward to the Minister of Municipal Affairs two copies together with a certified statement showing the number of votes cast for and against the by-law. After publication in the *Saskatchewan Gazette* of the Minister's approval and not earlier, the by-law shall come into force.

Upon receipt, before the first day of November in any year, of a petition to that effect signed by not less than 25 per cent. of the resident ratepayers of the municipality, the Council is to submit to the electors for their voting a by-law repealing any by-law of the municipality, the procedure to be followed being laid down by the Act.

So soon as the approval of a by-law by the Minister has been published in the *Saskatchewan Gazette*, all persons in the locality become and are liable to be assessed for a rate if any interest of such persons in lands situated within the municipality is assessable for municipal purposes. Lands within a hamlet and land held under grazing lease from the Dominion of Canada are exempt from assessment.

The rate which is fixed by the Act at four cents per acre shall be increased by an additional rate imposed by the directors, and an important provision is that by which the directors may define the areas within which these additional rates shall be levied, and such higher or lower rates may be of different amounts in different areas. The rates thus levied shall be and remain until paid a charge and a tax upon the lands or upon any interest therein of the party assessed notwithstanding that the title to such land may be in the Crown or that the lands themselves are not otherwise liable to assessment.

Under certain conditions and following a certain procedure, provision is made for withdrawals and exemptions of lands from the operation of the by-law imposing the rates.

As regards collection of rates, the Act lays down that the secretary-treasurer of the municipality shall cause the rates to be entered on the assessment roll of the municipality for the current year, against all lands and all interests in lands within the municipality not withdrawn and relieved from imposition, and against the persons to be assessed in respect thereof. Such rates are to be collected in the same manner as municipal taxes. As regards claims for damages, it is enacted that any person having interest in a crop or portion of a crop growing on land assessed and liable for rates under this Act, who presents a claim in respect of damage from hail caused to the standing crop on such land, between the tenth day of June and the fifteenth of September, shall in accordance with a prescribed procedure receive an indemnity of *not more than ten cents per acre for every one per cent. of damage* which the board may decide he has sustained.

No claimant is however entitled to indemnity under this Act for any damages less than five per cent. of the crop upon the hailed area at the time of damage. If such loss or damage proves on inspection to be less than five per cent. the cost of inspection is to be paid by the claimant. The damage from hail throughout the same season and upon the same area is to be treated as cumulative.

In the event of the total actual and estimated revenues of the association not being considered by the Commission as sufficient to pay all losses in full, these shall be paid *pro rata*.

In order to enable the association to make full use of its assets in meeting claims accruing in the course of any year, irrespective of the amount of its collections, the Lieutenant-Governor in Council may enter into agreements with the association and with persons lending money to it, guaranteeing repayment of the sums advanced, either originally or upon renewal with interest. The association may secure the Province against any loss that may result from the guarantee given, in such a manner and in such a form as the Lieutenant-Governor in Council may approve.

In the Province of Alberta a similar organisation is in existence. In virtue of certain provisions contained in a law enacted in 1912 under the title of the Municipal Act 1912 the council of each municipality of the Province could adopt a by-law in the form prescribed by the Minister the object of which was to form with at least nine other municipalities a Hail Insurance District for the purpose of indemnifying every person having an interest in a crop growing within the municipality. This by-law before coming into force had to receive the approval of the majority of the electors in accordance with the procedure prescribed by the Act. The Hail Insurance District was to be administered by a Hail Insurance Board which consisted of the mayors of the municipalities included in the district, and which had the powers conferred on it by the Act.

After having undergone expansion and amendment, the part relating to the organisation of municipal hail insurance contained in the Act on the municipalities became in 1915 a special law on municipal hail insurance. This law has been subsequently amended from time to time.

In Manitoba there is also an Act respecting Intermunicipal Hail Insurance dated 20 February 1914. This Act was based on principles similar to those in accordance with which the laws on municipal hail insurance in Saskatchewan and Alberta were framed.

There is no central service in Canada for recording the occurrence of hail storms and of the damage so caused. Statistics relating to the damage produced by hail are drawn up and kept up to date by the municipal hail insurance associations in the Provinces of Saskatchewan and Alberta and by the share Companies dealing with this branch of insurance.

The following are the statistics relating to the share Companies undertaking hail insurance in Canada (1)

In 1929 there existed 41 Companies (6 Canadian, 8 British, and 27 foreign), holding Dominion licenses. The premiums amounted to 3,571,334 dollars and the claims to 1,013,527 dollars. The Companies holding provincial licenses registered 53,628 dollars of premiums against which no claim was made.

In 1930 the number of Companies holding Dominion licences was 42 (6 Canadian, 6 British, and 30 foreign). The premiums amounted to 2,856,091 dollars and the claims to 2,592,646 dollars. The companies holding provincial licenses registered 1,053,652 dollars in premiums and claims amounting to 806,912 dollars.

The following are the figures shown in the *Toronto Chronicle* (2) prepared by the Association of Hail Insurers in Canada and relating to 52 insurance companies operating in Canada.

In the three Provinces of Saskatchewan, Alberta and Manitoba in 1930 the following results were obtained:

	PREMIUMS	Losses	%
Saskatchewan. . . . .	\$ 1,629,877	1,585,429	97.27
Alberta . . . . .	» 837,130	873,548	105.35
Manitoba. . . . .	» 489,382	192,349	39.30

The following is a table showing the results obtained from 1917 up to 1930:

1917 . . . . .	\$ 3,035,895	1,390,269	45.8
1918 . . . . .	» 2,251,188	696,956	30.9
1919 . . . . .	» 2,712,776	1,798,926	66.3
1920 . . . . .	» 5,800,026	2,371,270	40.9
1921 . . . . .	» 4,371,348	4,718,786	107.9
1922 . . . . .	» 4,402,427	1,635,347	37.1
1932 . . . . .	» 5,322,642	5,119,347	96.1
1924 . . . . .	» 3,687,107	2,004,957	54.3
1925 . . . . .	» 5,397,394	2,267,390	39.4
1926 . . . . .	» 4,803,004	3,185,047	66.3
1927 . . . . .	» 6,370,000	6,875,000	107.9
1928 . . . . .	» 7,324,114	7,356,321	100.44
1929 . . . . .	» 3,709,197	1,039,479	28.2
1930 . . . . .	» 2,956,389	2,651,326	82.1

(1) These figures have been taken from the Reports of the Superintendent of Insurance, Dominion of Canada for 1929 and 1930, p. XXXVII.—.

(2) *Corriere delle Assicurazioni*, aprile 1931, p. 37.

The following is a statement of the activity of the intermunicipal organizations in the three Provinces of Saskatchewan, Alberta, and Manitoba (1).

Saskatchewan: the total insurance carried by the Association in 1929 was 7,953,139 acres at 5 dollars per acre or a total of 39,765,695 dollars.

The income and expenditure statement of the Saskatchewan Hail Insurance Association shows the following results for 1929 (2):

Total assessments . . . . .	\$	1,408,046.88
Total awards . . . . .	»	614,474 59
	»	793,572.29
Paid rural municipalities for services less crop report penalties . . . . .	»	30,640.06
	»	762,932.23
General operating expenses . . . . .	»	75,068 97
	»	687,863.26
Surplus on operations . . . . .	»	106,145.49
Net miscellaneous income . . . . .	»	794,008.75
Surplus for year . . . . .	»	

The balance sheet surplus of the Association was 2,540,742.48 dollars in 1929

The losses paid by the Saskatchewan Hail Association were very low compared with the amount paid in 1928, *viz.*, 2,223,915.86 dollars.

*Alberta.* — There were 887,532 acres insured by the Hail Insurance Board of Alberta in 1929 (3) and of these 62,210 acres were cancelled on account of floods, frost or drought.

The following is the statement of the operations of the Alberta Hail Insurance Board for 1929:

Assessment . . . . .	\$	795,030 40
Claims, adjustment fees and expenses . . . . .	»	593,866.65
	»	201,163.79
Commissions to municipal districts . . . . .	»	15,058.95
	»	186,104.84
Expenses . . . . .	»	44,742.02
	»	141,362 82
Miscellaneous income (nett) . . . . .	»	25,099.12
Net income . . . . .	»	166,461.94

(1) Hail Insurance, *The Economic Annalist*, Ottawa, September 1931, p. 8.

(2) Report of the Saskatchewan Municipal Hail Insurance Association for the year ending January 31, 1930, p. 7.

(3) Annual Report of the Hail Insurance Board of Alberta for the year ending January 31 1930, p. 9.

Although the volume of the business carried municipally decreased one-third in 1929 on account of adverse conditions, the volume carried by other competitors decreased to about 60 %.

*Manitoba.* — According to the article by Mr. A. Gosselin in the *Economic Annalist*, although there is, as already stated, a Municipal Hail Insurance Act in Manitoba, very little data are available for purpose of comparison and it seems that a large share of the hail insurance business is transacted by joint stock companies registered in that province.

### LIVE STOCK INSURANCE.

Live stock insurance is effected in Canada almost exclusively by companies. In 1929 (1) there were four companies undertaking this branch of insurance and holding the Dominion license, viz one Canadian, one British and two foreign. The total amount of premiums paid to these companies during 1929 was 75,419 dollars and the net amount of claims was 42,295 dollars. At the end of the year there were claims not settled to the value of 10,900 dollars. In 1930 the number of live stock insurance companies was reduced to three (one British and two foreign). The total amount of premiums paid during 1930 was 59,428 dollars and the claims amounted to 88,992 dollars. At the end of the year there were 29,475 dollars representing claims not settled.

*Agricultural Fire Insurance.* — Some account may be given of a special insurance organisation operating in Canada in the Province of Quebec, taking the form of mutual companies formed by municipalities and parishes which effect fire insurance. There are in addition joint stock companies with a federal or provincial license, cash mutual companies and strictly mutual companies transacting business over a more extended area. Organisations on similar lines to the municipality mutual companies and operating in a local area also are in existence in Ontario and Manitoba (2).

The Quebec Insurance Act (3) empowers the councils of rural municipalities to found mutual insurance companies with the object of insuring against accidents by fire, by fire and lightning, or by fire, lightning and wind, any building erected upon assessable land within the municipality, as well as any grain, hay, fodder, household furniture and agricultural implements contained in such buildings.

The mutual companies thus formed are subject to the formalities of a license and registration, and each one is administered by the council of the municipi-

(1) Report of the Superintendent of Insurance Dominion of Canada For 1929 see p. XXXVIII and CCI,XII, for 1930, p. XXXVIII and CCXXXIX.

(2) GOSSELIN M., *Co-operative Farm Fire Insurance in Quebec*, in the *Economic Annalist*, June 1931.

(3) Statuts refondus de la Province de Québec 1925.



pality in which it is established. The council is empowered to insure or not insure certain buildings and also to fix by by-law the maximum amount of insurance which it is decided to grant on the property that may be insured or on any such property.

Owners of property insured are members of such companies and are liable to it for the amount of the damage caused by fire, etc., as well as for all debts and obligations contracted by the companies, in proportion to the amount for which their property is insured. The company is responsible to each of its members for two thirds of the damage caused to the buildings or property in question to an amount not exceeding two thirds of the valuation of the insured goods or for an amount not exceeding two thirds of the maximum amount of the insurance if such maximum is fixed.

The councils may, if so authorised by the majority of insured persons, levy twenty-five cents per one hundred dollars of the amount insured to establish a reserve fund and are to levy annually an amount sufficient to meet all the damages, the amount of which has been established, and to pay all the obligations and matured debts of the company. This amount is to be levied by means of a tax imposed upon each building insured, in proportion to the amount of its valuation and of the valuation of its contents, or in proportion to the amount of the insurance thereon. This tax is collected in the same manner as the municipal taxes and has the same privileges. The mutual companies of the parishes are on the contrary established independently of the council of the municipality. Twenty-five owners residing in any parish or local municipality five of whom are provisional directors of an association formed with the view of establishing a mutual fire insurance company may form such a company. Legislative provisions regulating the mutual companies apply to these companies provided that they do not conflict with special provisions relating to these companies.

The following table shows the financial positions in dollars of the fire insurance societies in the Province of Quebec in 1929 (1):

COMPANIES	PAID UP CAPITAL	INSURAN- CES IN FORCE	ASSETS	LIABIL- ITIES	RECEIPTS	DISBURSE- MENTS
Stock Companies (*) . . .	2,777,516	62,986,288	26,405,533	23,085,729	5,806,838	4,394,180
Stock and Mutual Companies	338,000	86,092,709	2,732,692	472,315	1,046,618	876,195
Strictly Mutual Companies .	..	55,518,256	1,283,754	260,410	283,636	223,419
Municipality Mutual . . . .	..	11,905,179	98,972	3,565	14,168	12,549
Parish Mutuals. . . . .	..	83,223,834	4,240,796	70,882	239,895	231,348

(\*) Stock companies also transact other branches of insurance business.

F. A.

## FARM ECONOMICS

### The Position of Agriculture in the Free State of Saxony as deduced from Accountancy Results for the Farming years 1926-27, 1927-28 and 1928-29.

On 1 April 1927 a Bureau was established in connection with the Institute for Agricultural Economy (*Institut für landwirtschaftliche Betriebslehre*) of the Leipzig University, the special object being the study of conditions of farming in the Free State of Saxony. The following was the programme laid down for this Bureau:

- (1) study of the conditions of the working of farms in Saxony utilising for the purpose the results of farm accounts;
- (2) submission to the *Wirtschaftsministerium* of annual reports on the earning capacity of agriculture;
- (3) encouragement of research and instruction relating to the economic organisation of farms;
- (4) promotion of a better understanding throughout the province in regard to the economy of the farm and of the country generally by means of publication of the results obtained.

The first report made by the Bureau has been recently published (1) covering the three crop years 1926-27, 1927-28 and 1928-29.

In utilisation of the material and in its general statement of purpose, this report closely follows the lines of the work done by Prof. Laur during the past thirty years on the earning capacity of Swiss agriculture.

The report gives, in the first place, a general view of the natural and economic conditions of agricultural production in Saxony and of weather conditions, crop yields, price movements, etc., during the three years under review. This is followed by a statement as regards sources of material, methods followed in its elaboration and the terms employed. Over the three years 1,731 accounting results have been in all placed at the disposal of the Bureau by 10 of the farm accountancy offices of the State. The farms on which these results were obtained annually represented 4.17 per cent. of the area under cultivation of the whole of the farms in Saxony, not including those under five hectares, and the average area of the farms under review was 57.64 hectares. The distribution of the farms reviewed over the various parts of the country differing in natural and economic conditions was not entirely representative, and the same applies to the size categories of farms. In the course of the three years mentioned however and

(1) Die Lage der Landwirtschaft im Freistaat Sachsen, Untersuchungen über die Rentabilität der sächsischen Landwirtschaft in den Erntejahren 1926-27, 1927-28, 1928-29. Bericht der mit dem Institut für landwirtschaftliche Betriebslehre der Universität Leipzig verbundenen Landsstelle zur Erforschung der landwirtschaftlichen Betriebsverhältnisse im Freistaat Sachsen, erstattet von Prof. Dr. FALKE unter Mitwirkung von H. ISENSEN. Heft 1. Dresden und Leipzig 1932. Verlag Theodor Steinkopf.

also during the subsequent years great progress has been made in this respect. The fundamental principles and the methods adopted in the treatment of the accountancy results correspond to the recommendations made by the International Institute of Agriculture in collaboration with Prof. Laur for an international agricultural farm accountancy statistic.

In the main section of the Report the following subjects are treated in detail: farming expenses, gross return, contributions in kind from the farm to the household, the proportion of the gross return allocated to the market, net return, assets and debts, income, crop values and other values, results in the different cultivation zones of Saxon agriculture, and the economic situation of the farms. In accordance with the programme of the Bureau weighted averages are calculated for the whole country taking the weighted averages of the accountancy results, and it is in fact these calculations that make the report of extraordinary importance, the more so that it presents only indisputable and scientifically established facts, apart from any economic theory.

Some only of the numerous partial results can be indicated here. In none of the three years under review was a positive net return secured in agriculture; on the contrary a deficit on the average of the three years of 23.84 marks per hectare. Of the farms under review during the three years 46 per cent. were paying enterprises and 54 per cent. showed loss. In consequence of this there has been an increase in the indebtedness of the farms. On assets calculated (exclusive of land values) of 2,000 marks the total indebtedness per hectare increased from 500 marks on 1 July 1926 to 747.61 up to 30 June 1929

The average in the State for the net return from agriculture per farming family for the whole country was calculated on the basis of the results at 817 marks. It was thus so insignificant that in no case would it cover family consumption, and had to be supplemented by inroads on the capital or by recourse to credit. The net income of the farming family from agriculture is ascertained to be 47.85 marks per hectare. If a five per cent interest on the family capital is deducted, the wage claim of the farming family stands at - 21.65 marks, if on the other hand, the wage claim is deducted, there is an interest on the family capital of -88.21 marks per hectare. The following comment on the figures is made by the compilers of the report: " The results are practically without exception negative, and very far from the sums that might be regarded as acceptable on the most modest estimate. The net return from agriculture accordingly, where the farmer has renounced the interest on his own invested capital, has been insufficient to meet the customary local family labour earnings, or if that claim is renounced it is still insufficient to produce five per cent. interest on the capital.... The untenable position of agricultural returns in Saxony during the three years under review is apparent from the figures in a way that requires no further illustration. "

The amount of the social income derived from agriculture becomes less as the size of the farm is increased. The following table shows the absolute total of the social income in the different size categories and its distribution. It is only in farms up to 30 hectares that there is a share for the farming family. In farms of more than 30 hectares the amounts due to the employees, to the credit-

ors, to the State and to the commune exceed the total amount of the social income, so that not only does nothing remain for the farming family but the family has to draw upon its own capital for livelihood expenses or have recourse to credit.

*The Social Income and its Distribution over the average  
of the three farming years 1926-27 to 1928-29.*

SIZE-CATEGORY	SOCIAL INCOME IN MARKS PER HA.	OUT OF THE SOCIAL INCOME IS RECEIVED BY			
		the family (wage claim and interest on capital)	the farmhands etc.	creditors (Interest, rent)	State and commune (land tax and personal charges)
5-10 ha . . . . .	422 15	32.5	40.0	18.9	8.6
10-20 » . . . . .	357 55	18.2	58.6	13 1	10.1
20-30 » . . . . .	345 06	6.6	69 1	13 4	10 9
30-50 » . . . . .	362 58	— 2.3	76.9	14.3	11 1
100-200 » . . . . .	353 43	— 12.6	82 8	18.9	10 9
100-200 » . . . . .	288 01	— 22.6	92 0	19.8	10 8
over 200 » . . . . .	301.58	— 29.0	94 1	23 7	11.2
Average of the Farms . . . . .	323.05	— 13 0	83.5	18.4	11 1
Average for the whole Country . . . . .	356 52	9.1	64 7	16.0	10 2

A great advance has thus been made by the publication of this report in the study and illustration of the position of agriculture in Saxony. In addition the work may be considered as a model in regard to the importance of farm accountancy and the utilisation of its results. Special attention is drawn to this work as proving that the International Institute of Agriculture is on the right path in its efforts for the extension of farm accountancy and for the further development of international statistics based on accountancy. The result of these efforts depends however entirely on the work accomplished by the different countries. Every fresh enquiry of the kind facilitates the work of the Institute and increases the material which can be employed in a comparison of the position of agriculture in the different States. Such a comparison will in its turn stimulate the desire for making national investigations and will provide valuable data for the elucidation of numerous questions relating to the economy of the farm and of the nation and even world economy. It may be noted at the same time that the second volume of the *Recueil de statistiques basées sur les données de la comptabilité agricole*, containing the accounting results for 1928-29 for 16 European countries has just been published (1).

H. B.

(1) INSTITUT INTERNATIONAL D'AGRICULTURE, *Recueil de statistiques basées sur les données de la comptabilité agricole pour 1928-29*. Rome 1932, Bestetti et Tuminelli.

## CO-OPERATION

### Vine Cultivation and Co-operative Vine-growing Societies in Argentina.

Vine cultivation in Argentina is liable to periodical crises due partly to an under consumption of grapes and of wine and partly to the fact that there is no satisfactory co-operative organisation existing among producers, traders and consumers such as might tend to increase consumption and bring it into line with production while ensuring a supply of wine to suit the tastes of Argentine and foreign consumers.

Reference has been made in an earlier number of this Review (1) to the first of these periodical crises which occurred in 1914 and lasted till 1918. The main cause of this crisis was the overproduction of grapes, vine growing being the basic industry of the province of Mendoza. Side by side with this overproduction other factors may be noted which contributed to bring about this serious state of affairs in the industry, alike in regard to the growing of grapes, and in regard to the preparation, sale and consumption of wine. Measures were accordingly taken, such as the absolute prohibition of the planting of new vines from 1917 to 1921, a more diversified cropping system, the establishment of regional warehouses having certain fiscal privileges over a period of years, commercial treaties with neighbouring countries with a view to facilitating the export of Argentine wines by the grant of customs privileges in return. It was also hoped to relieve the crisis by the establishment under the law of 1 December 1916 of a quasi-official monopoly known as the *Sociedad Cooperativa Vitivinícola*. This body was however declared in 1918 by the Supreme National Tribunal to be unconstitutional. It was in fact a monopoly set up by the wine manufacturers at Mendoza and it had done more to disorganise vine-growing than to strengthen its organisation in the province. Its formation was a blunder which decidedly benefited the similar industry of the neighbouring province of San Juan where free competition had continued to prevail.

It should be noted that, among the vine-growing provinces of Argentina, that of Mendoza contains the lands most suitable for grape cultivation and for the production of certain highly appreciated types of wines.

In 1928 there were 78,000 hectares under vineyards, and 5,684,600 hectolitres of wine were produced, in 1,738 registered organisations, 1,050 being in full operation. These are simple industrial private undertakings based on speculation. They were engaged in transforming the largest possible quantity of grapes, bought from the growers, without giving much attention to technique of preparation, nor to the quality of the grapes, and requirements of consumer. Little of the product was sold outside the Province of Mendoza.

(1) See *International Review of Agricultural Economics*, Year IX, No. 1, January 1918.

The two provinces of Mendoza and San Juan form the vine-growing region of Cuyo which represents 96 per cent. of the whole production of the Argentine Republic.

In these two Provinces, the increase of the production of wine from 1914 to 1918 amounted to 64 per cent., whereas the population figures for the Republic rose from 7,948,609 to 10,922,035, or a total increase of 37.5 per cent. There was a very general belief, later proved by statistics drawn up by Prof. Bunge to be erroneous, that the crisis was to be attributed to overproduction rather than to underconsumption, *i. e.*, a reduction in the consumption of wine by the population, due to a number of economic causes.

In order to meet the new crisis, a new organisation, *Sociedad Anónima Vitivinícola*, was formed in Mendoza in 1929 by a group of manufacturers who were owners of vineyards and of winemaking establishments. The declared object of this Company was to check overproduction, which was believed to be the main and even the single cause of the crisis, and to safeguard and improve wine production. Opposition however was soon encountered from another group of farmers and manufacturers who maintained that it was essential to proceed to the joint protection of the industry by means of co-operation so as to avoid the necessity of the special model forms for purchase and sale, established by the Company in its relations with the suppliers of wines. The victory however remained with the Company backed as it was by the provincial authorities and by the credit institutions which showed a readiness to find a generous measure of financial support.

This gave rise to a fresh attack on the position of this commercial organisation from the side of the retailers of wine who were anxious to avoid any disadvantages resulting from these agreements.

These sellers maintained before the courts that it was the intention of the Company to injure the freedom of trade and industry, as recognised by the National Constitution, by the formation of a monopoly contrary to the law on trusts. They accordingly requested the revocation of the legal recognition of the Company.

The organisers of this opposition to the activity of the Company and to its character as a monopoly brought proofs of the losses they had suffered from inability to market their grapes, and demanded the conversion of the Company into a regional co-operative society under the national law on co-operative societies. In this way every member could become a shareholder and have the right to vote, and, as they pointed out, it was evident that the only possible solution of the national problem of vine cultivation was that of co-operative regional organisation of the growers.

The Company opposed this demand in the interest of the large growers, bringing forward the argument that it was impossible to change the whole character and structure in order to give special advantages to small growers, and equally so to renounce the credit of 14 million *pesos* which had been granted by a consortium formed by the Bank of Argentina and four other private banks to promote development of the Company and the foundation of similar companies in other provinces.

The clash of interests accordingly became centred on this demand for a co-operative organisation in opposition to the purely industrial and commercial principle.

The law on co-operative societies, No. 11,388, provides for and authorises the federation of co-operative societies for the purposes of agricultural credit to be obtained from the Bank of Argentina on advantageous terms, the self-governing character and economic independence of the different associated co-operative societies being retained. The conflict of principles and methods, however, continues, owing to the fact that alike in the Province of Mendoza and in that of San Juan the number of co-operative vine-growing and wine-making societies is too small to effect by such federation a real transformation in the legal character of the Company. In addition, these different co-operative societies do not succeed in securing individually the financing they require from the Bank, owing to their restricted trading capacity as compared with the total and collective requirements of the industry. In order to deal with the question in the interests of growers not belonging to the Company who are compelled to sacrifice large quantities of grapes, there has been formed at Buenos Aires a *Centro Vitivinícola Nacional* which has studied the special crisis of the industry alike from the legal as from the economic and political point of view, including that of the finances of the provinces interested in the preservation and development of the industry. These provinces undoubtedly cannot consent to the sacrifice of two million quintals of grapes, even if there is over-production, simply because the Company is not in a position to buy. Nor would they agree that several thousand workers, employed in private winemaking firms, should remain without work, with the inevitable results of such unemployment on trade, credit, fiscal receipts, etc.

In 1930, this central organisation approached the Bank of Argentina requesting it to appoint a joint Committee, consisting of delegates of the Consortium of Banks, the Mendoza Company and the *Centro Vitivinícola Nacional* itself with a view to a solution of the problem in the common national interest. With the object of promoting the proposals made by the *Centro*, the Minister of Agriculture formed, from 28 January 1931, a National Committee of Enquiry into the industry and into suitable measures for its protection. The Minister of Finance and the Minister of the Interior also took into consideration proposals within their competence made by the *Centro* for a more effective protection of the industry against the special crisis affecting it.

In regard to the characteristic features of this crisis, special mention should be made of the work of Prof. Bunge of the University of Buenos Aires. He ascertained that in the period from 1910 to 1914 the consumption of wine by the Argentine population increased up to 62 litres per year per head, and that subsequently it became stationary and finally in 1927 began to fall, in consequence of the unexpected rise in prices, the result of the bad weather which in that year occasioned the destruction of a great part of the Mendoza vintage. Prof. Bunge attributes the crisis simply to this diminished national consumption. General causes, no doubt, account for such a reduction in all wine-consuming countries, but there are also special causes in the case of Argentina among

which may be ranked first the decrease dating from 1924 of the European immigration into the country, and in particular of the Spanish and Italian immigration. In contrast with the immigration of other European nationalities — which has noticeably increased — the influx of Spaniards and Italians formerly tended to maintain the balance between the number of resident foreigners and the consumption in the country of the national wines. Actually the consumption of beer is now on the increase in Argentina as also replacement of wine by other beverages.

As contributory causes to underconsumption, Prof. Bunge mentions the high prices of wine and the raising of the provincial customs charges on wine acting also as a check on interprovincial trade. It is for this reason that he maintains that the problem for solution does not relate to production but to consumption and export. He adds that it is of first importance to regain the index of consumption of 62 and a half litres per person which was reached in the period 1922 to 1926, the drop from 1927 onwards being largely due to changes in taste of the consumers. A stabilisation of wine prices must also be obtained, as variations affect consumption adversely. There should also be a better organisation of measures for checking adulteration; relief from taxation should be obtained so far as possible, while a careful supervision of by-products is required with proper organisation of the export business.

Writers on the subject urge that the example of Chile should be followed in these various respects. In that country the consumption of wine per head increased over a period of fifteen years from 58.49 in 1910 to 88.65 in 1925, a period during which the consumption of beer in Chile fell from 16.05 to 11.37 litres. Inspection for the detection of adulteration or addition of water in wine is very strict in Chile, and reductions are constantly being made in the fiscal charges which press on this industry. In these respects, as has been said, Argentina would do well to profit by the example, and even more so in respect of the excellent organisation of the export trade in wine. Chilean wine is of excellent quality, the price is low and the product is well known in Europe, where among the importing countries Belgium held the first place in 1930 with 2,700,000 litres, Germany came next with 1,395,000 and France followed with 598,000 litres. In addition the quantities imported into other countries of Latin America or sent to the Far East amounted to 5,600,000 litres. It is evident that the special crisis of Argentina is not to be attributed to the supposed over-production.

The *Federación Agraria Argentina* is fully aware of the special features of the situation and intends to do its utmost to bring about the organisation of the industry on the new basis of co-operation. It proposes to follow up the work initiated by the *Centro Vitivinícola Nacional*, in regard to the formation of co-operative winemaking societies, the reduction of fiscal charges, abolition of interprovincial duties, reduction of the cost of transport, construction of new railways designed to improve connections, and organisation of direct control of production by the growers themselves with the object of preventing adulterations in the retail trade. Partial renewal of vineyards is also under contemplation and the formation of a link between the different types of co-operative



societies, growers' societies, societies for purchase and sale and consumers' societies. A linking organisation of this kind would, it is felt, do much to restore the demand for wine and the confidence of the public, while at the same time eliminating unnecessary and costly intermediaries.

E. F.

BUNGE, Alejandro E.: La industria vitivinícola in Argentina. *Revista de Economía Argentina*. Año XII, N. 140, 141, 142, febrero, marzo, abril 1930.

Agrícola. Revista mensual ilustrada de Agricultura, comercio e industria. Anate 20-21-22

## TO THE MEMORY OF ALBERT THOMAS

*On 30 June in the Victoria Hall, Geneva, at a special meeting of the Governing Body of the International Labour Office, the work of Albert Thomas was fitly commemorated.*

*The ceremony began with the reception of the authorities, followed by the performance on the organ of fragments of the Prelude to Parsifal. M. Mahaim, President of the Governing Body, opened the meeting and addresses were given by the following speakers:*

- |                        |   |
|------------------------|---|
| M. E. MAHAIM .....     | Representative of the Belgian Government on the Governing Body of the International Labour Office; President of the Governing Body of the International Labour Office |
| Sir ATUL CHATTERJEE.   | Representative of the Government of India on the Governing Body of the International Labour Office; Vice-President of the Governing Body.                             |
| M. H. C. OERSTED ...   | Employers' member on the Governing Body of the International Labour Office; Vice-President of the Governing Body.   |
| M. C. MERTENS .....    | Workers' member of the Governing Body of the International Labour Office; Vice-President of the Governing Body.   |
| Sir ERIC DRUMMOND ..   | Secretary General of the League of Nations.   |
| Mr. A. HENDERSON ...   | Chairman of the Disarmament Conference.   |
| Mr. E. SCHULTHESS ...  | Vice-President of the Swiss Federal Council.  |
| Mr. F. MARTIN .....    | President of the Council of State of the Republic and Canton of Geneva.   |
| M. G. DE MICHELIS ..   | President of the International Institute of Agriculture, Representative of the Italian Government on the Governing Body of the International Labour Office.           |
| M. L. JOUHAUX .....    | Workers' member of the Governing Body of the International Labour Office; Vice-President of the International Syndical Federation.                                    |
| M. P. J. S. SERRARENS. | Secretary General of the International Federation of Christian Syndicates.  |

- M. A. BOISSARD ..... Secretary General of the International Association for Social Progress.
- M. L. BOISSIER..... Vice-President of the Federation of international semi-official and private institutions established at Geneva.
- M. C. K. STREIT ..... President of the International Association of Accredited Journalists at the League of Nations.
- M. A. DALIMIER ..... Minister of Labour in France.
- Mr. H. B. BUTLER ... Assistant Director of the International Labour Office.

*At the close of the ceremony the choral from the third act of the Meistersinger "Wacht auf. Es geht gegen den Tag" was played.*

\* \* \*

*The address delivered by His Excellency, M. De Michelis, President of the International Institute of Agriculture, is here reproduced.*

The International Institute of Agriculture cannot but respond to the summons to take its place here on this solemn occasion dedicated to the memory of Albert Thomas.

The Governments of the 57 States and of the 15 independent Colonies which are constituent members of the Institute, its Permanent Committee and the members of its Staff desire, through my presence here and through these words of mine, to convey their tribute of heartfelt recognition.

For us of the Institute at Rome there remains the double memory of the ever loyal friendship which he whom we mourn to-day always showed for our Institution and of the fruitful work which under his auspices the International Labour Bureau and the Institute have carried out in common in a cordial spirit of friendly rivalry and solidarity.

When, at the outset of the life of the International Labour Bureau, doubts were cast on its competence in the sphere of Agriculture, it was thought, and there were those who desired, that the older institution, the first to be established through an agreement between the Nations, should make a successful claim for recognition of its status and of its achievements. Instead, through the action of Albert Thomas and of the present speaker, a joint agricultural commission, consultative in character, was set up which, from 1920 onwards has most happily provided the link between the Office in Geneva and the Institute in Rome by bringing the two bodies together for the joint study of agricultural problems and for concerted action.

However the controversy regarding the competence of the International Labour Office in agriculture, which was thus peacefully settled between the two international organisations concerned, gathered strength instead of dying down. In point of fact serious difficulties were encountered having their origin in certain irreconcilable agricultural circles, and the Government of a nation, very close to Albert Thomas himself, lent its authority to their contention. But the great champion prepared himself with all his strength, with all his

skill, with all his cogent argument, to defend the issue ~~he~~ had at heart, and in the end, before the Court at the Hague, he gained a decisive victory.

The struggle had been fought in order once for all to establish the universality of the mission entrusted to the International Labour Office and it was the Director of that Office who won the day for the cause he had espoused so warmly.

There had been reason to hope that the cycle, begun at Washington in 1919 on behalf of workers in industry and carried on at Genoa in 1920 on behalf of seamen, would have been completed by an examination of the labour conditions of the workers on the land and the consideration of the steps to be taken to better them.

In this field, however, were encountered difficulties of a new and graver order which were opposed to any far-reaching and beneficent policy. These difficulties were the inevitable outcome of the meagre protection granted to workers on the land under national legislations, a fact that formed a serious obstacle to the establishment of any kind of international regulation. For this reason it has so far proved impossible to arrive at any agreement to determine a legal working day for agriculture and the results of the movement have been limited to the adoption of three conventions and certain recommendations of a general order.

Closely associated as it has been with the policy in which Albert Thomas was the ever tireless leading spirit, the International Institute of Agriculture has been in a position to know and itself to appreciate to the full the orderly systematic and wholehearted labour of this great worker, who never sought a moment's rest from his task, performed from 1920 onwards with a tenacity of purpose that was only matched by the keenness of his vision, the breadth of his conception and his puissant energy.

In Albert Thomas the cause of the workers has lost one of its most devoted, as one of its most effective servants of these days and long will it have to wait for a soul, a will and a heart so generously endowed.

Already much has been said and much has been written, and more will be said and more will be written in the days to come, of the work accomplished by the great man who has gone before and of the influence left by his glorious and potent exemplar. It would be almost impossible to convey a precise idea of the full scope, moral and practical, of his activity. The beneficent results of his efforts are now spread throughout the world, thanks to the impetus of that dynamic temperament which made him always the effective pioneer.

In the early days of the International Labour Office a sociologist, seeking to give a definition of the new Bureau said: "It first informs itself and then informs the rest." Such a rôle was far too small for a man so great as Albert Thomas who, after building up a structure complete in all its parts, shaped it in his own way, assumed direction, gave it the stamp of effective action and made its influence felt throughout the world.

Of this place he made a veritable factory of ideas, of movements, of plans for laws; it became the starting point of a ceaseless effort which set in motion in every nation the machinery for betterment and for relieving hardships. He himself became missionary for its generous sentiment and influence by his

pilgrimages from east to west and from north to south in order to approach and to win over the most powerful authorities, to plead the cause of the weak and to persuade the Governments of the necessity for ratifying the Conventions adopted at Geneva.

In one of those striking speeches that he made at the close of a Conference, not so much with the object of summing up the proceedings but of infusing them with something of his own fire and genius, he laid down for himself his role of lighthouse-keeper. "This", said he, "is one of those human tasks which call for the utmost care, the utmost devotion and the utmost heroism."

The beacon light has burnt brightly in the midst of all the tempests and foul weather because the keeper was animated by a sentiment of supreme necessity such as should inspire every worthy effort of national collaboration in all times of anxiety and exigencies of all kinds.

Anxieties of ancient and of more recent date, exigencies springing from tradition and social change, thoughts of yesterday and of the morrow; the ruthless conflict of human selfishness entrenched amid its private interests and ready to crush every attempt at co-ordination and national agreement; the restlessness of working folk and of peoples anxious for peace and repose; none of these terrors was ever allowed, even for an instant, to affright, or even to trouble, the spirit of Albert Thomas.

That spirit and that heart had always an infallible stimulus, the sense of social justice. Herein also lay the deep-seated cause of his optimism. It was impossible for him to believe in any retrogression of human society in the direction of a less advanced form of civilisation. His breadth of intelligence was able to pierce the surrounding darkness and the shadows and to cast its rays where but few privileged eyes could reach towards the splendour of new dawns. His work still lives after his death in all the generous impulses that he has set in movement, in the light which he has shed upon the working masses throughout the world. Albert Thomas lives in their sufferings, he lives in their hopes and will live again in the conquests they will achieve, so long as the history of the world is illumined by a single ray of common feeling and of justice.

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# MONTHLY BULLETIN

OF

## AGRICULTURAL ECONOMICS AND SOCIOLOGY

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### FARM ECONOMICS.

#### Scientific Organisation of Agricultural Work in Finland (1).

##### I. — THE IMPORTANCE OF THE PROBLEM OF THE EFFICIENCY OF AGRICULTURAL WORK.

The income of a country depends primarily on the effective results of the work of its population. This is especially the case in countries where there is no great natural wealth or where as is the case in Finland production cannot rely upon large capital resources. In Finland 65 per cent. of the population derive income mainly from agriculture and the allied occupations. More than 50 per cent. of the whole public capital of Finland is invested in farms which include large stretches of forest land in addition to arable land properly so called. Accordingly, if the people of Finland are to enjoy a moderately well-equipped existence, suitable workers are needed and the work of the numerous agricultural population must be thoroughly effective, while the production per head and per unit of time must be the largest possible. On the other hand if it is desired that Finnish agriculture should be able to withstand competition in the international sphere, then all possible must be done to reduce the labour required per unit of production of farm products.

According to the investigations made on the earning capacity of agriculture which were set on foot in 1912 and are based on the keeping of farm accounts, labour costs in agriculture amounted in 1921-25 in Finland to 1233 Finnish marks on an average per hectare cultivated, representing 62.3 per cent. of production costs (2).

Farm labour costs in Finland consist of two different values, the value of the work of the paid workers, and that of the work of the farmer himself. In 1927-28, labour costs showed a percentage distribution as follows:

Nature of work	%
Paid work. . . . .	58.9
Work of farmer . . . . .	41.1

(1) This report has been forwarded to the Institute by the Finnish Association for Rationalisation of Farm Work in response to the enquiry made on the scientific organisation of farm work in the different European countries. The results of this enquiry were published by the Institute in 1931 in a separate volume under the title: "L'Organisation scientifique du travail agricole en Europe", in which some of the data of this report were utilised. This study has been brought up to date and rendered more complete, and is now issued separately in the following pages.

(2) *Investigations into the earning capacity of agriculture in Finland.* Vol. I-XVI.

For the group of the smallest sized holdings, those under 10 hectares, the proportion of the farmer's own labour was 76.9 per cent. of the total labour costs. The larger are the farms, the smaller is the share of the farmer's labour, so that on the large farms, 100 hectares and more, it does not amount to more than 9.6 per cent. of the labour costs.

In 1927-28 the percentage distribution of the labour costs on all farms keeping farm accounts was as follows:

Labour costs	Per hectare Finnish marks	Labour costs in % of production costs
Paid work on farm . . . . .	778	32.8
Work done by the family . . . . .	543	22.9
including:		
Administration . . . . .	138	5.8
Other work . . . . .	405	17.1

These labour costs may be distributed as follows under different items:

Nature of costs	%
Wages in ready money . . . . .	23.5
Board (of wage earners) . . . . .	23.3
Products of the farm . . . . .	10.1
Other benefits from the farm . . . . .	1.7
Other contributions in kind . . . . .	0.3
Work of the farmer himself . . . . .	41.1
	<hr/> 100

The proportion of paid labour is thus in Finland about 60 per cent. of the costs of agricultural work. Labour costs per man's working day amounted in 1927-28 to 30 Finnish marks; in 1921-25 they were on an average 28 Finnish marks.

It may be mentioned that on the farms that keep accounts the horse work days were 148 per year, which will be admitted to be a low output.

On the State experimental farms, with an average wage of 3.94 Finnish marks per hour, 1,748 horse work hours were required per year and per horse from 1925 to 1927. In making investigations into the earning capacity of agriculture, very special attention has been given during recent years to the actual output from the work alike of men and horses owing to the fact that the cost of both is constantly increasing. To this is due the interest which is so keenly shown in the real output of agricultural work.

## II. — HISTORY OF THE INVESTIGATIONS RELATING TO LABOUR IN FINLAND (I).

Towards the end of last century importance began to be attached in Finland to questions relating to the real output of work; it was the period when Fin-

(1) JUTILA K. T. *Investigations into the earning capacity of agriculture in Finland and results.* Report on the Congress of N. J. F. at Helsinki, July 1929.

land was passing from an internal home economy to a trade economy. This transformation took place more rapidly on the large farms, and the consequence was that on these same farms questions relating to labour became at this time of increasing importance.

The State experimental farms of Finland, numbering 12, and in particular the Mustiala experiment farm, have taken a foremost place in respect to this question of the actual output of labour. The Mustiala school of agriculture, from its beginning as far back as 1840, included on its curriculum farm accounting, and the accountancy of the experiment farm attached to the Mustiala school was at an early period relatively complete. At the end of the century, not many farms in Finland possessed a work record, accounting books and others showing labour conditions as complete as those of Mustiala. Through the medium of students going out from the institution the science of farm accountancy and the interest in it was diffused throughout Finland.

The accounting in reference to labour at Mustiala owes its importance to the fact that the Director of the farm from 1902 to 1907, the late Professor Karl Enckell, made use of the material thus assembled at Mustiala and laid down the bases, not only in Finland but in all the Northern countries, of investigations relating to farm work. He published the following works: "Fluctuations in the Intensity of Work during the different periods of the year" — "Labour Requirements of the different systems of cultivation, of the different crops and the types of labour — Helsingfors, 1908". Director Enckell dealt in his books with the results of the day's work and the fluctuations in labour requirements in the different periods of every crop rotation, in a word, with the problems that began only within recent years to attract general attention in Finland.

At the same time he showed clearly the reasons for the fluctuations in the intensity of work at Mustiala and advised measures for regularising the annual labour requirements, a question of primary importance when dealing with the organisation of the farm and the utilisation of labour. In addition he demonstrated the labour required at Mustiala for each rotation and for each crop. On the initiative of the Director investigations were made at Mustiala on the result of work during the days of from 10 to 12 hours, and comparisons were instituted between the work done by machines and by human workers. Although the investigations made by Enckell were limited to the results obtained on a single farm, they have had none the less a remarkable importance for agriculture in Finland, especially as showing that a detailed accountancy as regards labour is from more than one standpoint essential to the conduct of a farm enterprise.

Dr. Enckell became in 1907 interim professor and in 1910 ordinary professor of the Chair of Rural Economy at the University of Helsinki. A real pioneer, he has exercised a great influence on investigations into agricultural economy in Finland; he has in fact been the educator of the younger generation of investigators.

At the beginning of the XXth century, great interest was aroused in Finland by the establishment of farm accountancy offices, due largely to the un-



favourable interaction of economic causes at the time. The first office was set up in 1911 by the agricultural association of Ita-Häme, but its activity was shortly afterwards suspended. In 1917 the accounting office of the Häme-Satakunta agricultural association was founded, which subsequently enlarged its sphere of activity and published enquiries on the earning capacity of agriculture (1).

In 1912 on the initiative of the Central Union of the Agricultural Associations of Finland which undertook all the preparatory work, the question of accountancy received practical attention, and the management was shortly afterwards assigned to a central Office placed under the control of the Ministry of Agriculture. This Office was known as the Administration of Agriculture, and a share of the direction also fell to an establishment which received the name of Research Establishment of the Administration of Agriculture in regard to Agrarian Economy.

The work is carried on by the Director General of this Administration, Dr. J. E. Sunila, at the present time President of the Council of Ministers. The first year, the establishment made a survey of the accounts of 122 family farm holdings; and in 1927-28 it dealt with nearly 700 (2)

The accountancy system devised by Dr. J. E. Sunila has not merely been adopted on the farms just mentioned, it has also been widely introduced among other sections of the population engaged in agriculture, being taught in all the schools of agriculture and utilised for advisory work in connection with rural economy (3).

The system involves two work record books: these give a precise idea of the conditions of labour. In addition since 1917-18, the experiment farms of the State schools and since 1923 also 15 private farms, maintain, combined with their bookkeeping by double entry, a detailed accountancy of work giving special attention to the checking of work done (4).

Very thorough investigations into the expenditure on labour on the experiment farms of the State schools have been made on the basis of this accounting system. The most recent is that of the Agricultural Advisor, K. J. Ellilä: "Organisation and Results of the Farming of the Experiment farm holdings of the State Schools". The following figures are taken from this enquiry.

The noticeable variations shown in this table as occurring in the labour costs of the different farms result merely from the difference in the intensity of the work. This intensity of work is especially low at Korsholm.

(1) RURIK PIHKALA. *Maatalouskirjanpito-opas pienä ja keskiiseen-Satakunnan Maanviljelysseuran kirjanpitotoimistossa*. Tampere 1927. — K. I. VIRTANEN. *Maatalouden kannattavuus ja siihen vaikuttavista tekijöistä Hämeen-Satakunnan Maanviljelysseuran kirjanpitotoimiston kirjanpitojen perusteella tilikaudella 1926-27*. Tampere 1928.

(2) The results of the investigations have appeared in. *Investigations on the Earning Capacity of Agriculture in Finland*, I XVII.

(3) SUNILA J. E. *Maatalouskirjanpito*. Porvoo, 1917

(4) *Ohjeita valtion maanviljelyskoulutslain kannattavuus kirjanpidossa*. Maataloushallituksen tiedonantoja No. 124. Helsingissä, 1918.

TABLE I — *Labour Costs per hectare of the Experiment Farms of the State Schools (in Finnish marks).*

NAME OF THE FARM	WINTER BARLEY		OATS		ROOT CROPS		HAY	
	Man work hours	Horse work hours	Man work hours	Horse work hours	Man work hours	Horse work hours	Man work hours	Horse work hours
Years 1925-27								
Mustiala, . . . . .	296	205	307	204	677	356	172	123
Lepaa, . . . . .	240	148	152	117	605	298	106	88
Harju, . . . . .	233	209	170	171	526	354	140	138
Kurkijoki, . . . . .	396	223	242	143	678	278	170	103
Elisenvaara, . . . . .	180	185	135	135	514	344	88	88
Otava, . . . . .	223	195	203	202	843	555	127	128
Korsholm, . . . . .	418	272	290	186	957	411	174	105
Tarvaala, . . . . .	228	184	159	157	444	361	99	99
Koivikko, . . . . .	285	145	202	122	656	318	149	89
Seppala, . . . . .	326	131	288	168	718	292	170	105
All farms								
1925-27, . . . . .	282	203	214	161	620	347	141	110
1922-24, . . . . .	312	203	248	200	613	307	141	100
1919-21, . . . . .	390	273	288	222	730	338	152	101

All the crops have in this instance necessitated very high expenditure of labour, except oats, cultivation of which at Mustiala is however even more unprofitable. The farm standing last in the column shows a still larger expenditure on labour. The figures for labour costs at Elisenvaara are very favourable. The cost of human labour is for all the crops the lowest. The labour costs for hay at Elisenvaara are only about half those of Korsholm.

Glancing at the three year averages for all the farms, there will be noted, after the period from 1919 to 1921, a considerable dropping of the labour costs. This is due in part to the improvement in dead stock and probably also to the steps that have been taken to increase the effective output from work.

Up to the present, the work of the accountancy offices of the Administration of Agriculture has been mainly directed towards making investigation into the earning capacity of agriculture. Owing to want of funds it has not been possible to undertake analyses of farm accounts. In the near future this state of things must be remedied, and the work entrusted to the accountancy office. This is to be opened shortly and will be attached to the agricultural associations for the purpose of preparing the balance sheets.

The research establishment of the Administration of agriculture will in the first place merely assemble the material and prepare the farm analyses; more attention will be given than in the past to questions relating to the actual work output.

### III. — THE ASSOCIATION FOR RATIONALISATION OF AGRICULTURAL WORK.

As a result of various questions arising out of the principle of the actual output of work, an idea grew up in different circles of founding an association the members of which would work on common lines, would make known in their country and abroad the experiences acquired and the results in connection with the actual output of work, and would stimulate investigation in Finland on the possibility of increasing this output (1).

This idea formed the starting point of the decision taken on 16 May 1924, at a meeting of persons interested, to found an association to deal with the question of rationalisation of agricultural work. According to its statutes (2), the object of this association is to increase the productivity of farm work in Finland and to form a liaison body for farmers endeavouring to solve the problem, for scientific men, agricultural and industrial associations as well as for commercial undertakings. Membership of the association in 1930 included 900 persons. Since 1926 it has received State subsidies and in addition, in 1925 and up to 1928, it received contributions from the Central Committee of agri-

(1) *Year-book of the Association for the Rationalisation of Agricultural Work*, 1924, p. 81.

(2) STATUTES OF THE FINNISH ASSOCIATION FOR RATIONALISATION OF FARM WORK (*abridged*).

§ 1. — *Name and headquarters.* — The name of the organisation is: Association for Rationalisation of Farm Work, and the headquarters are at Helsinki.

§ 2. — *Object.* — The object of the Association is to increase the efficiency of agricultural work in Finland and to act at the same time as a liaison organ between farmers who are working for the promotion of efficiency in farm work, specialists engaged in the investigations required, agricultural and industrial associations and commercial undertakings.

§ 3. — *Method of Work.* — The Association endeavours to attain its object:

(a) by holding meetings at which the question of efficiency methods is treated by means of lectures, reports, discussions, etc.;

(b) by collecting and preserving in permanent form the results of investigations and experiments;

(c) by endeavouring to promote vocational instruction and to secure more attention than hitherto in Experiment Institutes for the question of efficiency in agricultural work.

§ 4. — *Members.* — Annual membership of the Association is open to all persons of good repute, and to any society, or co-operative or other organisation, on payment to the funds of the Association of a subscription of 20 marks. Life membership is secured by a single payment of 250 marks at least; principal members pay 1000 marks at least in a single payment and associate members pay every year at least 100 marks.

§ 5. — *Management Committee.* — The Association is represented by the Management Committee which is responsible for its Administration except in respect of questions which, in accordance with the rules and the law, must be decided by the general meetings of the Association.

§ 6. — . . . . .

§ 7. — . . . . .

§ 8. — *Audit.* — The annual report, as also the report prepared by the Management Committee on the past year, must be ready by 15 February for submission to the auditors.

§ 9. — *General meetings.* — The annual general meeting of the Association is held during the period from February to May, and the autumn meeting in November or December. In case of need, extraordinary meetings are summoned.

cultural research institutions. The subsidies received from the State consist of the following sums distributed over the different years:

Year		Finnish marks
1925	From the Central Committee of agricultural research institutions . . . . .	30,000
1926	From State funds . . . . .	75,000
»	From the Central Committee of agricultural research institutions . . . . .	40,000
1927	From State funds . . . . .	75,000
»	From the Central Committee of agricultural research institutions . . . . .	40,000
1928	From State funds . . . . .	75,000
»	From the Central Committee of agricultural research institutions . . . . .	40,000
1929	From State funds . . . . .	115,000
1930	From State funds . . . . .	130,000

In common with other agricultural organisations, the Association for Rationalisation of Agricultural Work is a member of the Central Union of Agricultural Associations in Finland.

§ 10. — The business before the general meeting includes:

- (a) Annual report of the Management Committee on its activity during the past year;
- (b) Auditors' report, and if necessary, the report of the Management Committee in reference to that of the auditors.

- (c) Decisions as to whether the Management Committee is or is not to be relieved of its duties.

During ordinary or extraordinary general meetings questions may also be discussed which are raised by the Management Committee or by any one of the members, if the Management Committee has given previous notice.

Any question raised by a member of the Association in the course of a general meeting may be dealt with during the sitting if the general meeting so decides, but no definite resolution may be passed on a question so raised.

§ 11. — *Right of voting, procedure in voting, elections.* — Every member of the Association has one vote at the general meetings but has no power to pass on his right of voting to any proxy. The right to vote held by a society, co-operative or other organisation belonging to the Association is exercised by a representative entrusted with full powers by such body.

At the general meetings alike of the Association and of the Management Committee the voting is personal. Elections may be held on open ballot, provided no request is made for a secret ballot. In the case of equal voting, the chairman has the casting vote, or lots are drawn, if it is a case of making a choice.

§ 12. — *Local Associations.* — With the object of stimulating the work of the Association in any part of the country, members of the Association resident in the locality, may form a local branch Association there; such Association shall draw up rules for regulation of its activities, which shall be approved by the Management Committee of the Association.

A local Association may receive from the Association, so far as funds permit, financial support or special privileges. In this case it is under the obligation of presenting in February of each year to the Management Committee a report on its activity during the past year.

In view of the fact that there is a large number of agricultural associations on Finnish territory pursuing a variety of practical objects, no attempt has been made to found specialised associations for efficiency checks, but efforts have rather been directed to developing these within the already existing associations.

The associations especially equipped for carrying out efficiency checks are in the first instance accountancy clubs, clubs for check of crop returns founded in 1926 and agricultural research clubs (1).

In the first year the management committee of the Association delegated to a sub-committee the work of preparing for the labour record book a suitable scheme of grouping of the various types of work. This committee, consisting of Dr. G. Palander, the agricultural advisor K. J. Ellilä, and the expert manager V. A. Arola, prepared a scheme which was accepted and which with slight modifications forms the basis at the present time of the system of labour accountancy of the Association. The formulae proposed by Dr. G. Pallander for the labour records relate (2) to this system.

The system of labour accountancy will now be briefly described. The different kinds of labour are classified in the following way under the main groups:

I. - Field labour . . . . .	No. 10-23
II. - Other work for crops . . . . .	» 25-27
III. - Improvement and reconstruction work. . . . .	» 28
IV - Work for the farm animals . . . . .	» 30-33
V. - Drainage work . . . . .	» 34
VI - Conservation work . . . . .	» 40-42
VII. - Warehouse work . . . . .	» 50-57
VIII. - Forest work . . . . .	» 60-61
IX. - Other farm work . . . . .	» 70-73
X - Miscellaneous, not specified . . . . .	» 80-82

These main groups are divided into sub-groups, numbered in such a way that to the sub-groups belonging to the group of field labour are assigned the numbers ranging from 10 to 23, those belonging to the group of other work in connection with crops are numbered from 25 to 27, etc. The different kinds of work falling under the sub-groups are similarly numbered, but in this

(1) The activity of the Association for check of crop returns and that of the Associations for agricultural research is described in the year books and publications of the Union of the latter Associations, J. FANNES, O. COLLAN, Koeteimintayhdistöspas. Kourola 1929. Koetomintayhdistysten liiton vuosikirjat, 1928-29.

(2) *Maatalouden Työtehoseuran työpaiväkirjan työjaottelu ja ohjeet työpäiväkirjayhteenvetojen laatimista varten.* Helsinki, 1929.

case the numbering begins with one. An example of this classification is sub-joined in respect of field labour:

10. — Repair of ditches:
  - (1) open ditches
  - (2) land drainage channels;
  - (3) drains.
11. — Ploughing:
  - (1) removal of turf;
  - (2) ploughing in of stubble;
  - (3) ploughing with sub-soilers.
12. — Preparatory cultivation:
  - (1) winter rye;
  - (2) winter wheat;
  - (3) oats;
  - (4) barley;
  - (5) spring wheat;
  - (6) meslin;
  - (7) peas;
  - (8) green forage;
  - (9) potatoes;
  - (10) turnips;
  - (11) kohl-rabi.
13. — Fertilisers:
  - (1) management of farm manure;
  - (2) transport of stable manure to the field;
  - (3) spreading of manure;
  - (4) transport and spreading of liquid manure;
  - (5) management of transport and spreading of night soil;
  - (6) transport and spreading of chemical fertilisers;
  - (7) placing of rubbish on the manure heap, etc.

Each page of the work record book is kept for the work of five workmen during 16 days. For each day three lines are assigned. If in the course of a day a worker has undertaken more than three different kinds of work, the additional kinds may be entered either between the lines or on a second vertical column. In the first vertical column reserved for each worker is entered the nature of the work, in the second his hours of work, in the third the hours worked by the draught animal, and in the fourth the wages. In the wages column there are only entered the wages of day labourers, overtime pay, wages of the permanent workers, and in the case of job work, sums paid for job work.

Side by side with the work record book there are schedules, each page containing observations with reference to nine workers and seven days of work. These schedules resemble pages of the record already described except that they allow space for the entry of observations as to the weather and as to the results of the work from day to day.

The method of filling up the work record book is explained in a supplement; another supplement explains the method of using the recapitulatory tables which are drawn up on a uniform plan with the help of a card system; the summaries are made by the Accountancy Office.

On the card index is shown for each farm the following observations taken from the work record book of each farm:

*Card No. 1-a, and 1-b:* Weekly or monthly recapitulation of the work record;

*Card No. 2-a and 2-b:* Each number assigned to any one of the kinds of work (e g., 10.1, 10.2, and 10.3) is transferred weekly or monthly on to the card relating to it;

*Card No. 3 and 4:* Recapitulatory observations relating to the utilisation of the soil of the farm, the production and value of the crop;

*Card No. 5:* Recapitulatory observations relating to the head of live stock on the farm;

*Card No. 6-a, and 6-b:* Recapitulation of the monthly or weekly labour expenditure expressed in man and horse work hours;

*Card No. 7:* Yearly expenditure of labour divided among the main groups of work;

*Card No. 8:* Expenditure of labour for crops and expressed in man and horse work hours;

*Card No. 9:* Expenditure of labour expressed in man work hours, relating to field work on the different crops;

*Card No. 10:* Labour expenditure per hectare relating to the different crops and expressed in man work hours;

*Card No. 11:* Labour expenditure per 1000 crop units expressed in man work hours;

*Card No. 12:* Work of horses in horse work hours effected for the different crops;

*Card No. 13:* Work of horses effected for the different crops per hectare and in horse work hours;

*Card No. 14:* Work done by horses per 1000 crop units and in horse work hours;

*Card No. 15.* Work of farm animals expressed in man and horse work hours.

*Work Record from 1 to 15 September 193. . .*

DAY	ANDERS MÜLLER			
	Kind of Work	Time in hours	Horse work hours	Finnish marks
1 . . . . .	11.1	10	20	—
2 . . . . .	10.2	10	—	10
3 . . . . .	12.1	10	40	—

This example shows how the entries are made in the work record. On the first day the farmworker Müller was occupied for 10 hours turf removing with a team; the second day for 10 hours he cleaned open ditches, and in addition to his wages he earned 10 Finnish marks for job work; the third day with a four horse team he was working for 10 hours on a field of winter rye.

The Association for Rationalisation of Farm Work has so far devoted a large share of its activity to the organisation of research and experiment in connection with farm work. This has been mainly confined to detailed investigations in regard to time taken; but less detailed investigation methods have been followed also in respect of the results of work and of the material collected by accountancy methods.

#### IV. — SOME RESULTS REACHED BY THE ASSOCIATION FOR RATIONALISATION OF FARM WORK.

When detailed enquiries are undertaken on work, the observations on the duration of work should be as complete as possible and the entries should be made so precisely that it is possible to divide the work into stages and to measure with a chronometer the fraction of time belonging to each stage. To effect these investigations and in particular to check efficiency, use is made of the mathematical method adopted by the Economic Division of the German Society of Agriculture (*Deutsche Landwirtschafts-Gesellschaft*). However in Finland, where the fields are usually broken up by ditches, and are of irregular form and often in separate parcels, conditions are so different that it is often more advantageous, in undertaking enquiries into efficiency, to employ the detailed method of valuation rather than the mathematical method. This is based on less numerous measurements of time, although requiring much more work.

Among the investigations undertaken by the Association for Rationalisation of Farm Work that have been published, there may be mentioned the following:

##### 1. — *Ploughing.*

It was proposed to determine the work required by the autumn ploughings. At the same time the quantity of forage supplied to the horses was measured and observations of their condition of health were made.

As appears from the table, out of the whole time required by the work, 75 per cent. on an average (representing a spread from 61 to 92 per cent.) was absorbed by the actual duration of the work. In other words about one fourth of the time was spent in harnessing, going to the field, etc. This proportion, however, varied between one third and one tenth of the time taken over work. Each day 0.63 ha. on an average, ranging from 0.45 to 0.76 ha., was ploughed. In one hour of work, not including pauses, 0.10 ha. on an average, *i. e.* from 0.07 to 0.14 ha., was ploughed. The width of the furrows varied, according to the style of the ploughman, between 0.3 and 0.4 m.; the narrowest furrows were



TABLE II — *Expenditure of labour for the Autumn Ploughings.*

FARM	Gross time	Net time	Net time in % of gross time	Length of intervals in work	Absolute calculation of time of work	Absolute time of work in % of total time
1 . . . . .	8 h 55'	6 h 51'	77	3 7	6 h 36'	74
2 . . . . .	8 » 13'	6 » 52'	84	2 7	6 » 41'	81
3 . . . . .	9 » —	6 » 26'	17	15 0	5 » 18'	61
4 . . . . .	8 » 30'	6 » 19'	74	17 4	5 » 14'	61
5 . . . . .	9 » —	7 » 58'	89	6 0	7 » 29'	83
6 . . . . .	9 » —	7 » 51'	87	7 0	7 » 18'	81
7 . . . . .	9 » 37'	8 » 25'	88	18 6	7 » 31'	78
8 . . . . .	8 » 51'	7 » 11'	81	25 0	5 » 23'	61
9 . . . . .	9 » 5'	9 » —	99	11 0	8 » —	92
Average . . . . .	—	—	85	—	—	75

FARM	Quantity of work in ha on average per cart and per team		Average width of ploughing	Average depth of furrow	Speed of ploughing metres per second
	per day	per hour of work			
1 . . . . .	0 66	0 10	0 35	0 17	0 8
2 . . . . .	0 65	0 10	0 40	0 20	0 7
3 . . . . .	0 68	0 12	0 36	0 20	0 9
4 . . . . .	0 71	0 14	0 35	0 20	1 1
5 . . . . .	0 59	0 08	0 38	0 16	0 6
6 . . . . .	0 52	0 07	0 37	0 15	0 5
7 . . . . .	0 76	0 10	0 40	0 20	0 7
8 . . . . .	0 68	0 13	0 30	0 22	1 2
9 . . . . .	0 45	0 06	0 35	0 17	0 4
Average . . . . .	0 63 ha	0 10 ha.	—	—	0 8

obtained by the use of two-share ploughs. The depth of the furrows varied between 0.15 and 0.22 m. or 6 to 9 inches.

On farm No. 8 ploughing was done with a four horse team and a two share plough, with a coulter 30 cm. wide. Although the depth of the furrows was greatest on this farm, No. 8 took the third place in respect of the extent of the area ploughed, per share and per pair of horses. At the same time one half day of work is saved on this farm. On the same farm the same implements were used to plough in the stubble before planting potatoes. The area ploughed per day and per share was 0 63 ha., although the working day was 6 hours 45

minutes. As the actual time occupied in work, intervals not included, was 4 hours and 2 minutes, the area ploughed was 0.16 ha. per hour of work.

Although the quality of the soil, the length of the parcels and method of ploughing differed from one farm to another, it seems possible to conclude from the data that, when the autumn ploughings are carried out scientifically, it should not be difficult to plough 70 and even 80 ares per day, *i. e.*, to obtain a result one and a half times to twice as good as that which is regarded as normal (0.4 to 0.5 ha.).

The powers of resistance shown by the horses employed make it possible to establish a very interesting relation between feed and work done.

TABLE III. — *Relation between Feed and Work Accomplished.*

FARM	Duration of test	HORSES			FORAGE PER HORSE AND PER DAY			Unit of feed value	Starch value
		Breed	Average weight kg	Reduction in weight kg	Oats	Hay	Green forage		
1	6	medium.	505	14.5	20	10-12	—	7.6	5.3
2	3	—	495	11.0	3.0	10	3 of oatmeal	7.5	5.5
3	5	strong . . .	516	14.0	3.0	12	—	7.3	5.3
4	10	very strong	580	2.5	6.5	12	2 of straw . .	10.5	7.8
5	10	medium . .	464	2.5	6.0	8	6 of fodder beets	9.7	6.4
6	10	strong . . .	518	7.0	6.0	10	—	9.0	6.4
7	12	—	—	—	3.0	10	25 of clover	10.3	7.5
8	8	strong . .	—	—	7.5	8	3 of oatmeal	10.0	7.6
9	6	—	—	—	4.0	10-12	2 of straw . .	8.1	5.9

On the three first farms, where the feed given was average, and where about 7.5 feed units and 5.4 starch values were given per day to the horses, the reduction in weight was on an average 13.5 kg. On farms 4 and 5, where about 10 feed units and 7 starch values were given per day to the horses, there was only a trifling reduction, 2.5 kg. Unfortunately the figures relating to farms 7 to 9 are not available. The entries for No. 7 show that at the conclusion of the trial one pair of horses showed fatigue while the other team was in satisfactory condition. The horses of the farms 4 and 6 were in good condition; those of farm No. 5 showed signs of fatigue. These latter were somewhat small and 18 years old.

The Sachs apparatus which automatically measures the motive power was used on farms 5, 8, 9 and 19. The expenditure of motive power is shown in the following table.

TABLE IV. — *Expenditure of Motive Power during the Different Kinds of Ploughing.*

FARM	Quality of soil	Number of horses	Depth of furrows inches	Expenditure of motive power kg.	Kind of ploughing
5	clayey . . . . .	2	8	216	turf.
9	" . . . . .	2	7	195	ploughing in the stubble before planting potatoes
9	" . . . . .	2	8	239	do.
8	" . . . . .	2	11	232	ploughing in stubble before oats
8	" . . . . .	2	11	215	do.
10	" . . . . .	2	6	218	do.
8	sandy soil . . . .	4	7	345	ploughing in stubble before planting potatoes.
8	" " . . . . .	4	8	347	do.
8	" " . . . . .	4	8	369	do.
8	" " . . . . .	4	9 ½	426	do.
8	" " . . . . .	4	11	472	ploughing in stubble before sowing oats
10	clayey . . . . .	4	8	406	do.
10	" . . . . .	4	8 ½	385	do.

The motive power is nearly the same on all farms. The differences in expenditure are in part due to the absence of a sufficient number of trials and in part to differing soil quality. Thus to open a furrow to the depth of 8 inches, with a team of two horses, it was necessary to utilise a motive power of from 216 to 239 kg. With a four horse team, the same furrow required 358 kg. of motive power, or 1.65 times more than with two horses. This fact is evidently connected with the action of the plough in opening the furrow.

2. — *Comparative Investigations of the Labour Expended on Parcels Drained and Provided with Open Ditches (1).*

In regard to these results, it may be mentioned merely that on drained parcels harrowing with spring harrows gave a workyield of 14.3, machine sowing a yield of 11.2, and rolling 22.2 per cent. higher than that obtained on parcels with open ditches. Investigations on the effect of the length of the parcels on the expenditure of work relate to the harrowing and ploughing. Cer-

(1) *Year book of the Association for the Rationalisation of Agricultural Work*, 1926, p. 41-42.

tain results will be quoted here relating to work with the plough. The harrowing results show the same tendency:

Length of parcels 100 m.	Work done per hour 94 ares
» » 50 »	» » » 75 »
» » 25 »	» » » 54 »

According to the length of the parcels the duration of the work (not including intervals) per ha. for each of the different operations of ploughing is as follows:

Length of furrow ploughed	100 m.	50 m.	25 m.
Actual work of the plough . . . . . sec.	28,700	29,960	28,560
Turning at end of field . . . . . »	7,000	14,000	28,000
Passing from one parcel to another . . »	738	1,558	3,198
Ploughing of strips . . . . . »	1,929	3,449	6,509
Chance interruptions . . . . . »	112	224	—
Total . . . sec.	<u>38,479</u>	<u>48,191</u>	<u>66,267</u>

The results show clearly the extent to which the system of short parcels is unscientific and the reasons.

### 3. — *Comparative Investigations as to the Work Yield with Different Methods of Harvesting.*

The investigation relates to reaping oats with the scythe, the sickle and with reaping machinery, showing comparative results.

Method of Work	Yield per hour and per group of workers	Yield per hour and by unit of work
	ares	ares
Reaping with sickle . . . . .	—	2.8
» » scythe . . . . .	—	11.3
» » Deering cereal reaper . . .	28.2	10.5
» » Deering reaper . . . . .	47.6	17.9

The work yields obtained by the employment of the sickle, scythe and reaper are very satisfactory. They are quite comparable, as they have been obtained on the same farm, on adjacent parcels and in the same circumstances. The workers who used the sickle employed their time as follows: they devoted 90.4 per cent. to actual work and 9.6 per cent. to pauses. In the case of workers with the scythe, 78.3 of the time was taken up by actual work, and 21.7 per cent. by pauses. The crop was dense, and 11.3 ares was a very satisfactory output for each man handling a scythe. Reaping with the scythe was shown to be

four times as effective as reaping with the sickle. The output per hour of the reaping machine was 47.6 ares, which was also highly satisfactory. The reaping machine is however not to be recommended for the oat crop, as the blades spoil the grain. It is advisable to use special rakes. Of the whole time employed 90.8 per cent. was given to the actual reaping and 9.2 per cent. to the turning of the machine.

It should be noted that the trials were made in conditions especially favourable for the work of the machine, and that the length of the parcel was 300 metres. Per unit of work, the yield of the machine was 1.6 times higher than the yield of a man employing a scythe.

As regards the work yields already mentioned, the yield of the cereal reaping machine was relatively poor, 28.2 ares per group and 10.5 ares per unit of work and per hour. It should not however be forgotten that the trials have been made under different conditions. The work was carried out with energy rather below normal; in particular much time had to be spent on reaping round the bridges over the open ditches and crossing them. The proportion of the whole time employed given to the actual reaping was 63.1 per cent., as compared with 90.8 per cent. when the ordinary reaper is employed, while 7.5 per cent. is taken up by the passing from one parcel to another, 29.2 per cent. by the turning of the machine, as compared with 9.2 per cent. if the ordinary reaper is employed, and 0.2 per cent. by chance interruptions. Per unit of work and per hour, one are less is reaped than with the scythe, since with the scythe 11.6 ares are reaped per unit of work and per hour, while with the cereal reaper 10.5 ares are reaped. As it may be desirable to make use of the reaper on small holdings, comparative investigations have been made as to the work done by the ordinary reaper and that done by the cereal reaper in the same circumstances.

#### 4. — *Trials relating to Transport of Hay, Cereals and Stable Manure.*

The part of the results of these extensive and highly interesting trials which relates to manure will be set out later in graphs. The conclusions which most readily appear from these trials are the importance of large loads, employment of two-horse teams and a better organisation of work.

#### 5. — *Comparative Investigations on Ploughing with two, three and four horse teams (1).*

Some further space will be given to the subject of these investigations, so as to make clearer the method of analysis of time utilised by the Association for the Rationalisation of Farm Work. In respect of each type of ploughing, Tables V, VI and VII show the precise calculations of the time necessary for each journey of the plough.

	Tracing the furrow	Turning at end of field	Tracing the furrow	Turning at end of field	Unfore- seen inter- ruptions	TOTAL	Intervals	TOTAL TIME
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TABLE V. — *Autumn Ploughing. Fiskar plough No. 10, one man, two horses.*

Average figures.

Seconds . . . . .	265.0	27.2	244.5	31.2	5.1	575.0	138.9	711.9
Percentage . . . . .	46.3 %	4.7 %	42.7 %	5.4 %	0.9 %	100.0 %	—	—
Percentage . . . . .	35.3 %	3.8 %	34.3 %	4.4 %	0.7 %	80.5 %	19.5 %	100.0 %

TABLE VI. — *Autumn Ploughing. Fiskar Plough No. 10, 3 horses one man.*

Seconds . . . . .	195.2	28.1	205.9	28.9	3.8	461.9	76.3	538.2
Percentage . . . . .	42.3 %	6.1 %	44.5 %	6.3 %	0.8 %	100.0 %	—	—
Percentage . . . . .	36.3 %	5.2 %	38.3 %	5.4 %	0.7 %	85.9 %	14.1 %	100.0 %

TABLE VII. -- *Autumn Ploughing. International two share plough, one man, four horses.*

Seconds . . . . .	242.7	26.7	231.7	33.8	2.5	536.2	66.1	602.3
Percentage . . . . .	43.1 %	5.0 %	43.1 %	6.3 %	0.5 %	100.0 %	—	—
Percentage . . . . .	40.2 %	4.4 %	38.4 %	5.6 %	0.4 %	89.0 %	11.0 %	100.0 %

However much alike the quality of the soil and the other circumstances in which comparative investigations are made as to different methods of ploughing, the varying length and width of the parcels make comparisons difficult. In considering and comparing among themselves the results shown in Table VII, it is to be noted however that they are not definitely affected by this circumstance. In order to facilitate comparison, it was arranged in Table IX that the parcels should be 300 metres long and 20 m. wide. The soil is taken to be drained so that the parcels are really 20 m. wide without ditches. Taking as basis the comparisons relating to the duration of the intervals, which during the trials were rather too short than too long in view of the pace of the horses, for the different cases the intervals are as follows:—

one man, four horses . . . . .	11 per cent.
one man, three horses . . . . .	14    "    "
one man, two horses . . . . .	20    "    "

of the actual duration of the work. Accordingly the actual duration of the work is properly as follows:—

one man, four horses . . . . .	17,095 seconds
one man, three horses . . . . .	34,986    "
one man, two horses . . . . .	40,920    "    "

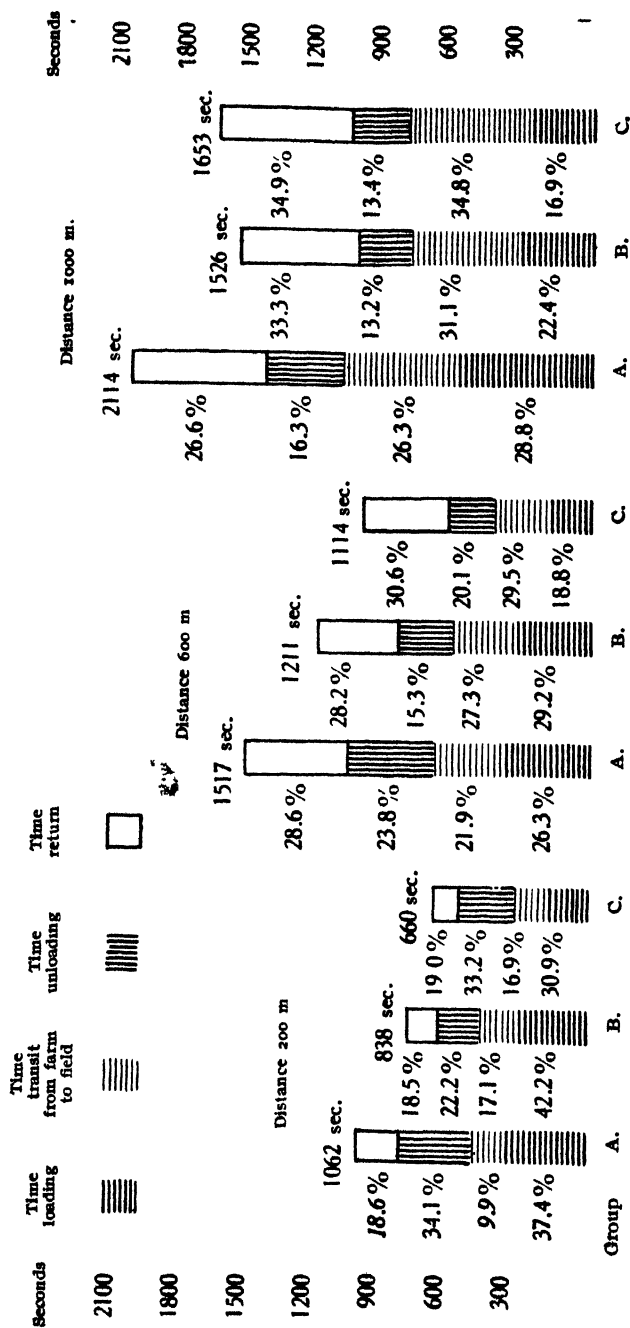
TABLE VIII. — Autumn Ploughing. General Table.

GROUP	Area per ha.	Work yield ha. per hour	SPEED		Ave- rage width of cut cm.	TIME								Total
			m/sec	per m/sec.		for driving furrow		for turning		halts		intervals		
						sec.	%	sec.	%	sec.	%	sec.	%	
1 man, 2 horses . . . . .	0.98	0.11	1.07	0.93	40.0	22,929	71.6	2,596	8.2	228	0.7	6,251	19.5	32,004
1 man, 3 horses. . . . .	0.79	0.13	1.21	0.83	39.0	16,642	74.7	2,338	10.5	158	0.7	3,131	14.1	22,269
1 man, 4 horses . . . . .	1.09	0.24	1.28	0.79	32.5	12,811	78.8	1,601	9.8	68	0.4	1,785	11.0	16,265

TABLE IX. — Time Taken in relation to the Different Methods of Ploughing.

GROUP	Speed m. sec.	TIME						Total time for complete journey sec.	Width of furrow cm.	Number of journeys	Total time sec.
		for driving furrow		for turning		unforeseen halts					
		sec.	%	sec.	%	sec.	%				
1 man, 4 horses, . . . . .	1.28	468	88.1	60	11.3	3	0.6	531	65	29	15,399
1 man, 3 horses. . . . .	1.21	496	88.9	58	10.3	4	0.8	558	36	55	30,690
1 man, 4 horses . . . . .	1.07	560	90.3	56	9.0	4	0.7	620	36	55	34,100

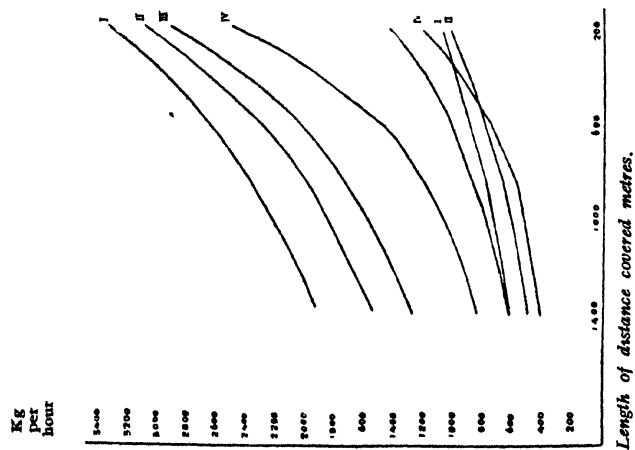
GRAPH No. I. — *Transport of manure in winter — Time employed in coming and going.*



Group A. = One man, two horses a two-horse sled. Average weight of load . . . . . 1487 kg.  
 „ B. = One man, one horse. Average weight of load . . . . . 898 „  
 „ C. = One man, one horse, work sled. Average weight of load . . . . . 525 „



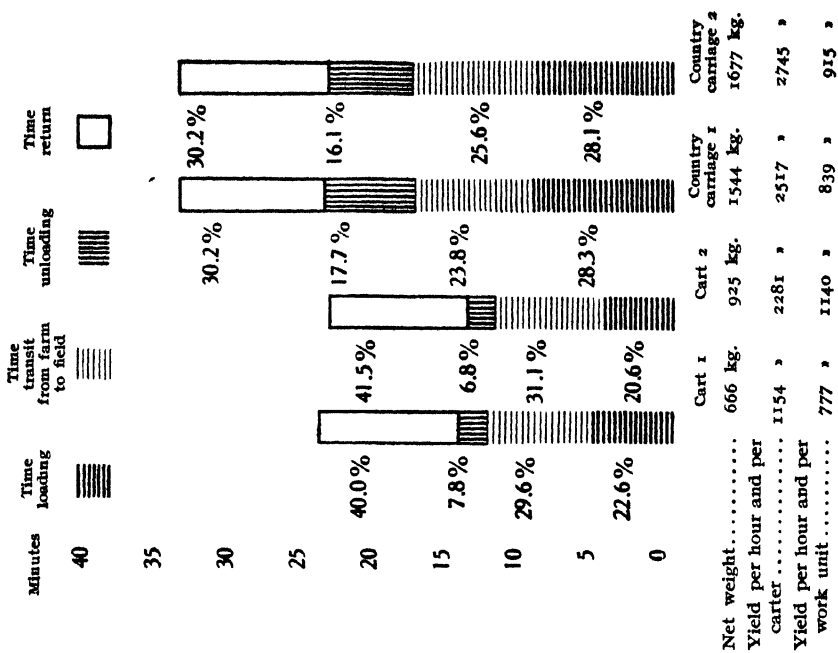
GRAPH No. 2. — Effect of length of distance covered and size of cart on the yield in transport of manure in winter.



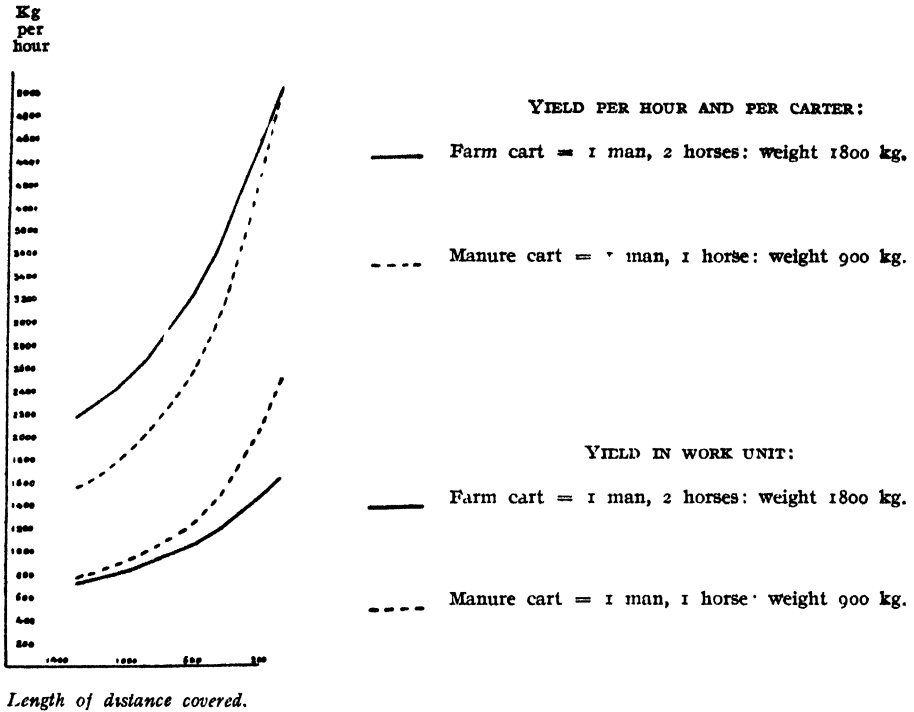
UPPER CURVE = Yield per hour and per carter.

LOWER CURVE = Yield per hour and per work unit.

I. = 1 man, 2 horses.	Net weight	. . . . .	1800 kg.
II. = 1 " 2 "	"	"	1200 "
III. = 1 horse.	Net weight	. . . . .	900 "
IV. = 1 " "	"	"	500 "



GRAPH No. 3. — *Effect of the length of distance covered and of the size of the cart on the yield in transport of manure in summer.*



In all cases  $300 \times 40 = 1.2$  hectares per hour were ploughed and the work yields obtained were the following:—

GROUP	Work yield per hour ha	Work yield per hour and per unit of work ha.	Index
One man, four horses . . . . .	0.25	0.05	166
One man, three horses . . . . .	0.12	0.03	100
One man, two horses, . . . . .	0.10	0.03	100

Thus the trials have shown that from the point of view of economy of labour it is much more satisfactory, at least on drained land, to plough with one man, four horses and a two share plough, than to plough with one man, three or

two horses and a single share plough. In judging results, the quality of the work must be taken into consideration; this is better when a two share plough is used.

6. — *Comparative Investigations on the Methods of Work Employed during the Gathering of Root-crops (1).*

The opportunity of studying the different methods of work was given by the gathering of turnips, etc. Differences in expenditure of labour resulting from different methods of gathering these crops were considerable, as the following figures show:—

Method	Index-number of the expenditure of labour
1 . . . . .	100
2 . . . . .	74.5
3 . . . . .	70.7
4 . . . . .	59.8
5 . . . . .	57.7
6 . . . . .	54.3

The labour costs necessitated by the cultivation of sugar-beet have also been studied. The two or three farms which have been taken into consideration in the following tables show very marked differences in this respect.

7. — *Comparative Investigations in regard to Methods of Drying Hay.*

These trials have shown that the most advantageous method of drying hay is that which consists in hanging it on posts or stakes, although the differences between results obtained are not very large.

The following statement gives the time required in the course of the trials for setting up the drying apparatus and for hanging the hay on it, per 1000 kg. of hay:

KIND OF WORK	Minutes of man work	Index-number	Minutes of horse work
Drying on posts . . . . .	227	100.0	53
„ „ racks . . . . .	236.3	112.5	53
„ „ trestles . . . . .	258.8	113.5	49.4

(1) Year book of the Association of the Rationalisation of Farm Work, 1927, p. 57-67, and 1928, p. 45-55 and 74-78.

TABLE X — *Expenditure of Work and Labour Costs Required by Sugar Beet Cultivation in 1928 per farm and per hectare on the Farms A, B, and C*

	FARM A				FARM B				FARM C			
	Number	per ha.		%	Number	per ha.		%	Number	per ha.		%
		Finnish marks	per ha.			Finnish marks	per ha.					
Days of work man . . . .	207	6,210—	609 42	15 5	690 5	20,715 —	845 51	24	553 5	16,605 —	922 50	16 2
„ „ woman . . .	15	285—	27 97	0 7	20 5	348 50	14 22	0 4	—	—	—	—
„ „ child . . .	86	860—	84 40	2 1	—	—	—	—	123	1,230 —	68 33	1 2
„ „ horse . . .	183	3,477—	341 22	8 7	681	14,982 —	611 51	17 4	635 5	13,981 —	776 72	13 7
„ „ tractor .	6 5	1,300—	127 58	3 3	2	320 —	13 06	0 4	14 5	2,900 —	161 11	2 8
„ „ motor lorry .	—	—	—	—	39	5,904 60	241 —	6 8	9	900 —	50 —	0 9
Piecework . . . . .	—	27,935 05	2,741 41	69 7	—	43,984 40	1,795 29	51	—	66,851 —	3,713 94	65 2
TOTAL . . .	497 5	40,067 05	3,923 —	100	1,433	86,254 50	3,520 59	100	1,335 5	102,467 —	5 692 60	100

TABLE XI. — *Labour Costs Necessitated by Sugar Beet Cultivation on Farms A, B, and C, in 1928.*

	FARM A			FARM B			FARM C		
	Labour costs			Labour costs			Labour costs		
	per farm	per ha	%	per farm	per ha.	%	per farm	per ha.	%
Autumn ploughing with sub-soiling . . .	800 —	78 50	—	7,400 —	302.04	—	3,972 —	220.67	—
Transport of manure . . . . .	—	—	—	—	—	—	3,407 —	189.27	—
Manure spreading . . . . .	—	—	—	—	—	—	768 —	42.67	—
Transport and spreading of manure . . .	—	—	—	—	—	—	5,450 —	302 78	—
Transport and spreading of chemical fertilisers . . . . .	401 50	39 40	—	1,202 —	49 06	—	3,085 —	171.39	—
Turf removal with harrow . . . . .	—	—	—	222 —	9.06	—	222 —	12.33	—
Cultivation prior to sowing . . . .	992 —	97 40	—	2,621 —	106 98	—	3,212 —	178.44	—
Sowing . . . . .	294 —	28 85	—	1,299 50	53 04	—	1,303 —	72.39	—
Rolling . . . . .	24 50	2 40	—	—	—	—	—	—	—
Cleaning of ditches . . . . .	—	—	—	195 —	7.96	—	—	—	—
Harrowing . . . . .	2,097 50	205 85	—	5,028 —	205 22	—	6,127 —	340.39	—
Thinning . . . . .	10,011 —	982.43	—	19,931.65	813.54	—	16,291.55	905.09	—
Removal of stamens . . . . .	565 —	55.45	—	102 —	4.16	—	—	—	—
Harvesting operations and transport to barns, etc. . . . .	13,016 62	1,277.40	—	30,742.75	1,254.81	—	29,885 —	1,660.28	—
Transport to factory or warehouse . . .	11,339.43	1,112 80	—	17,510 60	714.71	—	25,194.45	1,399.69	—
Other labour costs . . . . .	525 —	51 52	—	—	—	—	3,550 —	197.22	—
TOTAL . . . . .	40,067 05	3,932 —	—	86,254 50	3,520.58	—	102,467 —	5,692.61	—

Under the conditions obtaining in Finland other methods are not satisfactory, but these indicated are in general use and hay so treated dries well even in unfavourable weather provided it is carefully spread on the supports. If violent rains occur and soak the hay on the posts it needs to be spread out again, but such rains are of rare occurrence in Finland.

8. — *Trials in regard to Farm Carts, etc., in Finland* (1).

In 1929 trials were made of farm carts in Finland, with special attention to the advantages resulting from their construction and load capacity. It was desired to establish types of home built vehicles and to ascertain which of these were the most suitable for farm use. Results were published in the Year books of the Association for Rationalisation of Farm Work.

9. — *Investigations into Methods of Laving on Water for Household Use and for Watering of Stock with Respective Costs* (1).

The result of these investigations was also published in 1929. Enquiries were made as regards the difficulties encountered on many farms in obtaining supplies of drinking water and water for other household purposes. At the same time costs of construction were calculated, with a view to showing how the farmer might obtain water to best advantage.

These trials are repeated every year; figures representing work yield are entered on the appropriate tables; and the greatest number possible of operations are carried out in differing conditions. The material obtained by the trials was collected in 1929 and the results published in the "Agricultural Calendar" which has thus replaced obsolete tables relating to work yield also prepared by the Association for Rationalisation of Farm Work.

Farmers have readily undertaken the trials carried out on their farms and often without making any claim for compensation, but at the same time the activity of the Association for Rationalisation of Farm Work has been greatly hampered by the absence of an experimental farm of its own as well by the want of available funds. It is anticipated that in the near future these trials will be made on a farm specially devoted to the purpose and independently managed.

(1) *Year book of the Association for Rationalisation of Farm Work, 1929.*

## V. — SOME RESULTS OF ENQUIRIES ON THE UTILISATION OF FARM MACHINES (1).

Agriculture has become rapidly mechanised in Finland during the last few decades, and it is beyond dispute that this development has brought about a remarkable improvement in Finnish agriculture. The economy of labour resulting from the employment of machinery is undoubtedly very great, and the large number of machines has greatly contributed to bringing about equalisation of work. In addition the employment of machines results in better work, and work which apart from machinery would be troublesome and disagreeable is made much less so. Apart from the numerous advantages resulting from the use of machinery, it may be noted that sound economic principles have not always been followed in procuring machines. Their utility has been overrated and they have been purchased without calculation of their actual utility. The machine has effected a reduction and an equalisation in the expenditure of labour, the result may be better work, but apart from these advantages the use of machinery has merely increased the labour costs.

Machinery has accordingly reduced the earning capacity of the farm holding, although all efforts have naturally tended or should tend to achieve the contrary. This result must be primarily attributed to the fact that the annual duration of the utilisation of the machine is very short in agriculture. In addition to the expenses necessitated by the use of the machine, its owner is rendered liable for other fundamental expenses, interest charges, ruinous depreciation and upkeep costs, whether the machine is used or not. Considerable utilisation of a machine over a year involves higher fundamental expenses than a minimum employment, but per hour of work such expenses are greater with the minimum utilisation.

Utilisation of machines over one year has a decided effect on the costs of the labour which the machine replaces. It is recognised that in agriculture in general the period of utilisation of machines, especially on small farms, is relatively short and that in consequence costs per hour of work are remarkably high. Precise figures are however not available as to the employment of machines on farms of different sizes, and consequently it is not possible to make calculations before purchase of machines. Such figures if available would form valuable material for advisory work in agriculture.

Some results will later be given of enquiries made into the length of time for which machines can be utilised. These enquiries relate to the period included between 1929 and 1930 on forty farms belonging to the Supervisory Office of the Administration of Agriculture, where the accountancy results are kept. The material of the enquiries has been collected by R. Tienari in his doctorate thesis entitled "Utilisation and Yield of Machines in Agriculture" in accordance with instructions from the Association of Rationalisation for Farm Work (2).

(1) *Maatalous*, No. 9, 1931.

(2) See also: HEINÉ MYLLÄRNIEMI. *The better outturn of agricultural machines.*

The farms on which the surveys have been made are for the most part in the South of Finland, where 67.5 per cent. of the farms keep accounts. The remainder were distributed fairly evenly between the other farms keeping accounts, except that in Southeast Finland no farm was placed under survey for this purpose. The farms were divided according to the quantity of land cultivated into three size classes, the first class grouping farms with from 7.69 to 16.88 hectares of fields, the second class farms with from 19.42 to 29.98 hectares and the third class with from 30.10 to 90.08 hectares. Thirteen farms were in this way included in the first class, 14 in the second and 13 in the third.

The proportion of the fields in the different classes of farms under survey is shown in Table XII. The percentages show that the number of the different crops cultivated in the second and third class does not vary markedly. On the other hand, the first size class is differentiated from the others by the relatively small proportion under fallow and the relatively large proportion under root crops and potatoes.

TABLE XII. — *Average Cropping Utilisation in the Fields of Different Size Groups of Farms under Survey.*

	I (11.66 ha.)		II (24.62 ha.)		III (51.48 ha.)	
	ha.	%	ha.	%	ha.	%
Winter wheat . . . . .	0.58	5.77	1.84	8.28	3.76	7.64
Spring wheat . . . . .	2.76	27.44	5.73	25.78	14.43	29.34
Potatoes . . . . .	0.46	4.58	0.56	2.52	0.95	1.93
Rootcrops and fodder cabbage	0.59	5.86	0.73	3.24	1.08	2.19
Flax and hemp . . . . .	0.01	0.09	0.03	0.13	0.01	0.02
Hay for seed . . . . .	0.06	0.59	0.43	1.93	0.42	0.85
Hay for forage . . . . .	4.42	43.94	0.06	40.70	18.94	38.52
Hay for pasture . . . . .	0.59	5.86	2.03	9.16	4.64	9.44
Green forage. . . . .	0.26	2.59	0.27	1.23	1.73	3.52
Fallow . . . . .	0.33	3.28	1.55	6.97	3.22	6.55
TOTAL . . . . .	10.06	100	22.23	100	49.28	100

Generally speaking it appears from this table that in respect of the use of farm machines there should be no great difference between one size group and another. Since the proportion reserved for crops increases in proportion to the area of cultivated land, the size of the farms must be the factor governing the employment of and necessity for the different machines. It may be assumed that the smaller farms are farmed more intensively and give higher yields per hectare than the larger farms, and it may be that the work of machines on farms of less extent, although more costly per hectare and per unit of production, would be in itself as cheap as or even cheaper than on the larger farms. In general the yield per



hectare has been the same, showing that the intensity is also the same on the farms of different size classes.

The number of machines utilised and their quality vary considerably between one size group and another. In Table XIII are shown the average numbers of the more important machines on the farms of different size groups per 100 kinds of crop and per 100 hectares of arable land.

TABLE XIII. — *Average Numbers of the More Important Machines on the Farms of Different Size Groups per 100 kinds of crop and per 100 hectares of arable land.*

	Per 100 kinds of crop			Per 100 hectares		
	I	II	III	I	II	III
	(11.66 ha.)	(24.62 ha.)	(51.48 ha.)	(11.66 ha.)	(24.62 ha.)	(51.48 ha.)
Tractor machines . . . . .	43.7	59.5	114.1	3.75	2.41	2.22
Transplanting machines . . .	52.0	66.4	98.7	4.48	2.69	1.91
Grading machinery . . . . .	98.5	86.6	176.9	8.44	3.52	3.43
Ploughs . . . . .	207.7	221.4	384.6	17.81	8.92	7.46
Ploughs for ditching . . . . .	1.9	15.5	29.5	0.17	0.63	0.57
Harrows . . . . .	317.9	372.6	603.8	27.26	15.14	11.62
Potato lifters . . . . .	9.2	28.6	52.5	0.79	1.13	1.03
Mowers . . . . .	78.8	125.0	153.8	6.76	5.06	2.98
Horse drawn reapers . . . . .	76.9	100.0	107.7	6.59	4.06	2.09
Harvesters . . . . .	7.7	—	69.2	0.66	—	1.34
Seed drills . . . . .	42.3	45.2	107.7	3.62	1.93	2.09
Hayseed drills . . . . .	8.6	27.7	53.8	0.74	1.11	1.05
Rootcrop seed drills . . . . .	48.7	46.4	69.2	4.17	1.69	1.34
Horse drawn harrows . . . . .	38.5	35.7	71.8	3.29	1.45	1.39
Steel and concrete rollers . . .	30.8	46.4	111.5	2.62	1.69	2.16
Ground rollers . . . . .	76.9	35.7	46.2	6.27	1.45	0.89
Straw cutters . . . . .	64.1	82.2	115.4	5.49	3.33	2.24

According to Table XIII the third size group own the largest number of machines per 100 kinds of crop, with the exception of the ground rollers of which the first class own the largest number. The second class own fewer than the first, per 100 kinds of crop, of grading machines, of rootcrop seed drills, of horse drawn harrows and of ground rollers. The table shows that the number of machines per 100 kinds of crop increases in proportion to the size of the farms. The small farms have more machines than the large per 100 hectares. Thus the number of machines of the second size class is only a little lower than that of the third class. It should be noted that the table, for each size group, takes account only of the more important machines. All farms have given information relating to 31 machines of different kinds, while they have not been able to take into consideration certain machines such as, for example, cream separators, potato mills, planing machines and pumps, for the reason that there was no complete information relating to their employment.

In Table XIV relating to the periods over which the machines are utilised, the more important machines only have been taken into consideration. The table shows, in hours of work, the period of utilisation of some of the more important machines, calculated on an average of 40 farms employing machines which have kept accounts in 1929-30. The largest use has been that of the plough and the harrow. Since according to Table XIII, for each crop, the first size class used on an average 2.1 ploughs, the second class, 2.2 ploughs, and the third class 3.8 ploughs the work time in hours for the respective classes is 54.7, 109.5 and 130.2 hours. The number of harrows necessitated by each crop is, for the first size-group, 3.2, for the second 3.7 and for the third class 6.0, so that the number of work hours for each harrow for the respective classes is 35.6, 61.6 and 68.8 hours. It should be noted that the smallness of the figures depends on the fact that the farms always have ploughs and harrows which are no longer in use or very rarely so, but are included on the inventory. In any case ploughs and harrows are admittedly the most indispensable of farm machines and those of highest work yield, although a farm ought not to retain useless machines. On the other hand, the yearly period of utilisation of the other machines is decidedly short.

TABLE XIV. — *Period of Utilisation of some of the More Important Machines, Calculated in Work-hours on an average of 40 Farms Employing Machinery and Keeping Accounts under the Administration of Agriculture in 1929-30.*

	TOTAL OF WORK-HOURS DURING THE YEAR		
	size-group		
	I	II	III
Ploughs . . . . .	115	241	495
Ditching ploughs . . . . .	13	10	23
Harrows . . . . .	114	228	413
Potato lifters . . . . .	15	15	19
Transplanters . . . . .	29	52	93
Grading machines . . . . .	15	30	48
Reapers and mowers . . . . .	20	44	70
Harvesters . . . . .	10	—	72
Horse drawn harrows . . . . .	14	32	68
Seed-drills . . . . .	28	47	98
Hay seed drills . . . . .	2	9	16
Rootcrop seed drills . . . . .	11	11	16
Manure spreaders . . . . .	19	48	53
Ploughs of a special type . . . . .	40	52	—
Sieves . . . . .	—	20	19
Rollers . . . . .	13	28	52
Clod breakers . . . . .	3	12	20

As regards the more costly machines, *e. g.*, transplanters, potato lifters, grading machines, reapers and harvesters, as well as manure spreaders, their period of utilisation considerably increases the cost price of Finnish agriculture. To

bring this fact out more clearly a calculation has been made in Table XV of the fundamental average expenditure on certain machines per work hour taking as a basis the present prices of these machines and estimating the rate of interest at 7 per cent.

In establishing this table it has been assumed that the machines corresponding to the different size classes of farms have the same base value, which is the case with the transplanters on the farms under survey.

TABLE XV. — *Basic Costs of Certain Machines in Different Size Groups per Work Hour in Finnish marks.*

	SIZE GROUP		
	I	II	III
Plough, . . . . .	1 16	— .66	— 57
Seed drill . . . . .	9 90	6 80	6 50
Reaper , . . . .	17 70	14.10	11 60
Transplanter . . . . .	37.30	24 30	21 40

The results of the investigations show that the employment of machines in Finnish agriculture, in any case on the comparatively small number of farms on which these surveys have been carried out, is very extensive, and on the small farms even more so than is advisable taking the balance sheet as a whole into consideration. This latter statement finds its justification in the remarkably short period of yearly utilisation of the machines which accounts for a large proportion of the basic expenditure calculated on cost of the work hour. Farmers purchasing and employing machines are entirely in the right if they have recourse to joint employment with other farmers, thereby increasing the total hours work during the year, and decreasing the costs of labour replaced by machinery.

#### VI. — ADVISORY WORK OF THE ASSOCIATION FOR RATIONALISATION OF FARM WORK.

The Association for Rationalisation of Farm Work has done active work also in the sphere of consultation, instruction and explanations, and in recent years increasing attention has been directed on these branches of its activity. In connection with courses held by agricultural organisations, lectures have been given on the work of the Association. Special courses have also been organised, as well as lectures and trials relating to farm work; special illustrative graphs, etc., have

been sent to agricultural shows; and the farmer has been kept in touch with the results of investigations by means of articles in technical agricultural journals, broadcast talks and cinematographic representations. The Association also devotes much activity to the work of instruction, and during the summer courses held at the agricultural schools arranges courses on investigations effected and also organises practical work relating to efficiency checks. The students of rural economy in the agricultural and forestry department of the University of Helsinki are expected to prepare articles relating to scientific organisation and to carry out investigations, etc.

It may be mentioned in conclusion that the Association for Rationalisation of Farm Work has from the day of its foundation worked in close collaboration with the Committee on Efficiency of the Northern Society of Students of Agriculture (*Nordiske jordbruksforskarens Förening*). The Association has also taken steps to catalogue the bibliography relating to the investigations made in Finland in regard to agricultural work, and thanks to the support received from the Northern Committee of agricultural technicians, this undertaking is already in progress.

*For the Association for Rationalisation of Farm Work in Finland*

Prof. K. T. JUTILA, *President*.

P. EKKO, Mag. agr., *Director and Manager*.

## LAND SYSTEMS

### **The Agrarian Reform in Estonia** (*Conclusion*).

#### IV. — THE RESULTS OF THE NEW LAND SYSTEM (*continued*).

##### *The Trade in Agricultural Products.*

As the agrarian reform has left untouched only a small part of the large farms (those cultivated by the State, by the towns, by the various organisations and by certain individuals), these farms do not play a very important part in supplying agricultural produce to the market. The greater part of the agricultural produce coming on the market is placed on sale by the small farms.

Unfortunately no statistics are available of the pre-war trade and, consequently, to obtain an approximate idea, we must content ourselves with statistics for the period of the agrarian reform. The statistics show that the small farms place a comparatively large part of the production on the market. Thus,

during the economic year 1927-28 the produce placed on the market by the farms was as shown in the following table :

TABLE VI. — *Produce placed on the Market by Farms in 1927-28.*

SIZE-GROUP	Per farm	Per hectare of agricultural land cultivated	Per 100 crowns of total capital invested	Percentage of total production
	crowns	crowns	crowns	
Up to 20 hectares . . . . .	1,437.17	96.32	17.43	53.41
20 to 30 hectares . . . . .	1,878.07	74.88	16.92	55.47
30 to 60 hectares . . . . .	2,784.20	65.82	17.02	59.87
Over 60 hectares . . . . .	4,438.91	52.02	16.42	64.45
Average . . . . .	2,675.86	63.95	15.67	59.75

The corresponding average figures for three years (1926-29) are 2,569.32 ; 62.88 ; 16.15 and 58.12.

In general, the external trade in agricultural products has developed as production has increased.

The imports and exports of agricultural products were :

YEARS	Imports		Exports	
	Thousands of crowns	Percentage	Thousands of crowns	Percentage
1923 . . . . .	19,726	44	24,632	56
1928 (1) . . . . .	38,529	39.7	58,642	60.3
1929 . . . . .	35,197	38.8	55,420	61.2
1930 . . . . .	21,439	33.04	43,444	66.96

(1) The imports in 1928 were exceptional, on account of the bad harvest.

The imports were mainly cereals, concentrated feeds and chemical fertilisers; the exports, on the contrary, consisted principally of butter, eggs, meat, flax and potatoes. Estonia is not an exporter of cereals, nor was it before the agrarian reform.

The relation between exports of agricultural products and the general exports is shown in the following table :

YEARS	Total exports	Exports of agricultural products	Exports of agricultural products as percentage of total production
	crowns	crowns	
1923 . . . . .	61,818,000	24,632,000	25.1
1925 . . . . .	96,650,000	43,425,000	44.9
1928 . . . . .	127,109,000	58,642,000	46.1
1929 . . . . .	117,471,000	55,420,000	47.2

In Estonia, the trade in agricultural products is partly in the hands of private merchants and partly in those of co-operative institutions. It is through the medium of these latter that the greater part of the butter, eggs, bacon and alcohol is exported and that concentrated feeds, chemical fertilisers and machines are imported.

After the War of Liberation, a great impetus was given to co-operative trading. The turn-over of the central trading societies of the Central Consumers' Co-operative Society of Estonia (E. T. K.), which acts as an importer of goods (particularly of agricultural implements and other requisites) and of the central agricultural co-operative society "Estoni", through which agricultural products are exported, increased in the course of ten years from tenfold to a hundredfold, as may be seen from Table VII (page 252).

In the local consumers' co-operative societies the turn-over has increased in the same proportion.

The marketing of agricultural products has been as much as possible encouraged by the Government by means of an organisation of transport corresponding to the conditions of the market. Thus new railways have been constructed (340 kilometres) as well as railway wagons with the necessary equipment which serve the principal markets, new roads have been constructed and existing roads have been repaired. (The State undertakes the maintenance of the more important roads). As a result of these measures the cost of transport has, of course, fallen, but, on the other hand, in many cases the new roads have rendered it possible for districts to supply the market which formerly were not able to do so.

Speaking broadly, it must be noted that the agrarian reform has strongly influenced the external trade in agricultural produce, in the sense of having brought about a development of the export of butter, eggs and bacon. Before the agrarian reform the principal articles produced for export by the large farms were alcohol (to the inland provinces of Russia) and milk (to the capital of Russia, St. Petersburg) and by the small farms, flax (exported to foreign countries) and meat.

TABLE VII. — *Purchase and Sale of Goods by Co-operative Societies for Purchase and Sale and Consumers' Co-operative Societies*  
(in thousands of crowns)

	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930
Central Consumers Co-operative Society of Estonia (E T K.)	384 (22,235)	2,110 (47,435)	8,857 (61,350)	15,389 (100,999)	12,134 (78,599)	12,153 (96,546)	14,360 (95,570)	14,272 (96,417)	14,035 (131,373)	19,325 (122,967)	20,977 (98,370)
Central Co-operative Society "Estonia" . . . . .	42 (19,588)	140 (24,197)	1,420 (52,827)	4,939 (61,817)	6,281 (75,271)	9,392 (96,646)	16,624 (96,236)	20,386 (105,776)	20,955 (127,109)	23,694 (117,471)	24,898 (96,434)
Local consumers' co-operatives societies (1) . . . . .	854	4,721	8,747	16,031	19,444	22,806	27,269	26,662	26,008	32,682	34,795
Total per co-operative society .	6	30	65	75	91	119	129	131	138	157	172

N B. — The figures in brackets in the foregoing table are the corresponding figures for the total imports (E T K.) and for exports ("Estonia"), but the figures are not quite comparable, as a part of the business of the two central co-operative societies consists of purchases and sales within the country itself

(1) In 1930, the local consumers' co-operative societies numbered 250, in this table figures are given for the turn-over of 202 societies, the others not having published statistics.

*Prices of Agricultural Products.*

The prices of agricultural products in Estonia depend, in the main, on prices in the foreign market. This is particularly the case for the more important exportable foodstuffs, that is, butter and meat. The prices of imported products (wheat, rye) also depend to a certain extent on prices in the foreign market, but less so than those of exported products. (Wheat is subject to an import duty, while the importation of rye is a State Monopoly). The prices of foodstuffs increased up to 1928, with rare exceptions. From that year onwards there was a continuous fall in prices, as may be seen from the following table.

*Prices of the Principal Articles of Food (in crowns).*

YEARS	Rye per 100 kg	Potatoes per 100 kg.	Butter per kg.	Eggs per 360	Sugar per 100 kg.	Salt per 100 kg.	Pork first quality, per kg.	Beef first quality, per kg.
1922 . . . . .	17.39	3.90	2.24	24.33	46.15	2.63	0.68	0.34
1923. . . . .	14.89	5.31	2.47	27.23	58.42	2.42	0.93	0.47
1924. . . . .	18.68	5.55	2.97	33.14	61.11	3.41	0.96	0.61
1925. . . . .	21.12	5.46	2.95	30.43	44.68	3.28	1.13	0.66
1926. . . . .	16.97	3.78	2.56	28.79	41.51	3.44	1.14	0.63
1927. . . . .	20.26	4.18	2.69	30.29	46.09	3.23	0.88	0.53
1928. . . . .	20.75	7.08	2.95	37.32	40.35	3.29	1.01	0.56
1929. . . . .	15.91	5.46	2.86	35.73	35.42	3.72	1.14	0.64
1930. . . . .	11.84	3.54	2.23	28.74	29.32	3.40	0.96	0.54

In comparing the prices of foodstuffs with those of industrial products, it is necessary to distinguish between national industrial products and imported industrial products: the prices of the former have remained fairly steady, while those of imported products have continually fallen.

On this subject, we give the index-numbers of wholesale prices compiled by the Central Bureau of Statistics of Estonia, the prices of 1913 being taken as equal to 100.

	1913	1922	1923	1924	1925	1926	1927	1928	1929	1930
Foodstuffs. . . . .	100	97	115	117	126	114	108	128	129	102
National industrial products . . . . .	100	128	128	118	129	121	127	139	133	126
Imported industrial products . . . . .	100	119	108	103	103	99	94	87	92	88
General index . . .	100	113	114	116	124	114	144	121	117	102



The movement of prices on the domestic market for the principal agricultural products is influenced by price-conditions on the world market.

It is only the price of rye which has been withdrawn from this influence since 1930, the year in which a State monopoly was introduced for rye.

The prices of agricultural products in Estonia are more or less uniform throughout the country, as the population is not very dense, the territory is small and transport conditions are satisfactory. Consequently the density of the population and the intensiveness of agriculture have only slight influence on prices and it is only in the islands, Saremaa and Hiin where, in comparison with the mainland, agriculture is extensive and where communication with the trading centres of the principal articles of commerce is difficult, especially during the winter months when the sea is frozen, that prices are lower than on the mainland.

### *Emigration.*

As has been said, Estonia is rather thinly populated and if before the declaration of independence the people emigrated all the same in large numbers, this was not due to too great density of population, but rather to the want of opportunities for obtaining land and to the hard conditions of existence. The agrarian reform created new conditions of life and thus brought about a diminution of the emigration. Before the war the number of emigrants was estimated at about 10,000 a year, while now the number has fallen to one or two thousand, which, in relation to other European countries, may be regarded as a normal emigration.

According to figures supplied by the State Central Bureau of Statistics the number of emigrants from Estonia since the declaration of independence was as follows:

	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930
Total number . . .	179	790	328	1,222	2,676	2,426	2,622	1,293	1,439	1,005
Per 1,000 inhabitants . . . .	16	71	30	110	272	219	237	117	130	91

In reality the number of emigrants during the years 1921 to 1923 was greater, as we have already stated, since the emigration was counterbalanced by the immigration of Estonians returning from Russia. The increase in the emigration in the years 1925 to 1927 is explained by the departure of those who had remained in Estonia but then definitely emigrated, and in part also by a reorganisation of the economic life on a peace-time basis which reduced a part of the inhabitants of the towns to unemployment.

The actual density of the population is not uniform throughout the country; some regions, like that of Petschori and some communes on Lake Peipus, on

the Gulf of Riga and also on the Island of Ösel (Saaremaa) have a density of population greater than the average for the whole country (17.5 persons per square kilometre). But too much importance must not be attributed to this fact in connection with emigration, as there are still possibilities of obtaining land in the interior of the country in thinly-populated regions, and, moreover, the smallness of the country enables the inhabitants of the more densely populated regions to find work in the districts where there are fewer inhabitants (work in the forests and in the slate quarries). The inhabitants of the coast find possibilities of earning money in fishing and in navigation.

Generally speaking, the price and the rent of land are higher in the densely populated districts than elsewhere, but there, too, may be noted a tendency to a levelling down of prices and it may be anticipated that, as a result of the settlement activity of the State and of home colonisation in general, the differences between the prices in the different regions will, in the future, be reduced to a minimum. This question has not yet been studied in detail and accordingly it is not possible to give statistics relating to it.

As to the relation between the urban and rural population, it has remained unchanged. It is true that the population of certain towns (Narva, Haapsalu, Kuresaare, Paide, Paldiski) fell by 2,423 between 1922 and 1930, but, on the other hand, the population of other towns has increased. In general the number of inhabitants of the large towns and small market towns increased, from 1922 to 1930, by 38,734. Where the population has chiefly increased is in the market towns situated in the open country (3,177) and in the small towns (14,553), and this must be considered as definitely a result of the agrarian reform. At the same time the agrarian reform has increased the purchasing power of the rural population and also the general level of economic life. That is why, by the side of the new settlers, artisans, manufacturers and traders have found means of livelihood.

The agrarian reform has, in addition, encouraged the formation of market towns and small towns by rendering possible the purchase, on favourable conditions, of parcels of land on which to build dwelling-houses (*Heimstätten*) on lands belonging to the State and allocated for the enlargement of towns.

It is true, however, that some of the town-dwellers were also set up as farmers, especially those who took part in the War of Liberation and accordingly had the privilege of obtaining land. There are no precise statistics of this type of settler established in the country, but it may be supposed that they were sufficiently numerous to prevent the towns from growing at the expense of the country districts.

Broadly speaking, the agrarian reform has reduced both emigration and the rural exodus.

#### *Insurance in Country Districts.*

There is no social insurance in Estonia and all insurance is due to private initiative. The insurance of buildings against fire has increased. The buildings on settlement holdings are subject to compulsory insurance against fire under

agreements made or obligations incurred. Property serving as guarantee for State loans must also be insured. But in the old peasant holdings also the buildings are usually insured. Other branches of insurance are still little practised in the country, but latterly life insurance, live stock insurance and hail insurance are growing in favour.

On the whole, insurance has greatly increased since the declaration of independence, as may be seen from the following table :

YEARS	Fire insurance	Life insurance	Live stock insurance	Hail insurance
	thousands of crowns	thousands of crowns	thousands of crowns	thousands of crowns
1922 . . . . .	274,406	659	..	..
1925 . . . . .	552,436	3,931	..	..
1929 . . . . .	949,326	23,022	672	169

In Estonia insurance is in the hands of private organisations. Thus in 1929 there were in all 20 insurance companies of a certain importance, ten of which were share companies and ten were mutual societies. Besides these companies there exist in most of the rural communes mutual fire insurance societies. Fire insurance is effected both by share companies and by mutual societies, whereas life insurance and other forms of insurance are, in the main, effected by share companies. As to the extent of the insurance effected by the communal mutual societies no statistics are available.

### *Taxes paid by Farmers.*

The taxes paid by farmers in Estonia are comparatively small and the payment does not weigh heavily on them. Landowners have to pay the following taxes : (a) the State real property tax ; (b) income tax, and (c) personal tax.

The property tax is paid by landowners on the basis of the estimated value of their lands in the following proportions : 0.21 crowns per rouble of net return or about 0.50 crowns per hectare of cultivated agricultural land. The autonomous administrations are authorised to impose for their own purposes an additional tax of 25 per cent. of the property tax, so that the maximum rate of the property tax is 0.26 crowns per rouble of net return, or 0.63 crowns per hectare of cultivated agricultural land.

The income tax is assessed on the actual income of those landowners who keep their accounts systematically. But the majority of the landowners pay on the basis of an average income fixed by the tax administration. In recent years (1930 and 1931) this has been 6.50 crowns per rouble of net return or 16 crowns per hectare. During the first seven years after they begin to cultivate

the land (years of establishment) the average income of settlers is taken as being 25 per cent. less. In cases of disaster, the tax administration can reduce the taxes by 50 per cent.

The number of farmers who were obliged to pay income tax was 40,245, that is, one-third of all the farmers and 39 per cent. of all the citizens paying income-tax. The average income tax paid by farmers was 17.28 crowns per year.

The personal tax is imposed in favour of the communal autonomous administrations on every adult living in the country, the amount being fixed by the administrations themselves. Taking the average for the whole country, the personal tax in 1929 amounted to 6.92 crowns per citizen, 42 % of the rural population being subjected to this tax.

According to the accountancy statistics the taxes on the landowners in 1929 were as follows :

SIZE-GROUP	Per farm	Per hectare of cultivated agricultural land	Percentage of cost of production
	CROWNS	CROWNS	%
Less than 20 hectares . . . . .	36.81	2 39	1.26
From 20 to 30 hectares . . . . .	42.47	1 69	1.16
From 30 to 50 hectares . . . . .	68.44	1 73	1.34
Over 50 hectares . . . . .	104.35	1.41	1.54
Average . . . . .	68 15	1 76	1.80
Five-year average . . . . .	81.54	2 02	1.47

Besides these direct taxes a part of the indirect taxes also affect the landowners. Unfortunately no statistics are available to indicate the amount.

By way of comparison, it may be noted that, before Estonia became independent, the landowners paid on the average towards the cost of the local autonomous administrations 6 to 10 Russian kopeks per rouble of net return, that is 15 to 25 kopeks per hectare. In addition, the owners of peasant farms had to repair the roads and do other forced works, from which the farmers of to-day are more or less free.

### *The Farmer's Balance-sheet.*

Only a small proportion of Estonian farmers keep systematic accounts. Statistics on the profit-earning capacity of agriculture are collected by the Agricultural Accountancy Office (*Põllumajanduslik Raamtupidamistalitus*). Founded by the largest central organisation of the farmers (*Eesti põllumajanduskeskelt*), this institution has since 1925 organised the keeping of accounts by farmers. In 1929-30 there were 421 farmers who kept accounts under the supervision of the Accountancy Office. In addition, there were 5 independent accountancy co-operative societies and clubs with 57 members.

In Estonia, a country of small farmers, the peasant holdings are primarily places where the family of the owner finds its work and its maintenance. The return on capital is comparatively small. According to the information furnished by the Accountancy Office, the average net return expressed as a percentage of the total capital invested was :

	1925-26	1926-27	1927-28	1928-29	1929-30	Average
Net return per hectare of cultivated land, in crowns .	12.77	5.03	14.00	9.37	7.93	9.81
Return (per cent) . . . . .	3.07	1.26	3.43	2.27	1.79	2.36

In consequence of the low general return the interest earned on the family capital is small in comparison with the return on total :

	1925-26	1926-27	1927-28	1928-29	1929-30
Return per hectare of the cultivable agricultural land, in crowns . . . . .	9.84	3.24	11.68	5.57	4.21
Return as percentage of family capital . . . . .	2.36	1.01	3.37	1.42	1.25

In the agricultural year 1929-30, the net return per hectare of cultivable agricultural land, the profit-earning capacity as a percentage of the working capital and of the total assets was as follows for the different types of peasant farms :

SIZE-GROUPS	Net return per hectare of cultivable agricultural land	Return as percentage of the working capital	Return as percentage of the family capital
Up to 20 hectares (1) . . . . .	8.05	1.65	1.18
From 20 to 30 hectares (1) . . . . .	8.77	1.96	1.52
From 30 to 50 hectares (1) . . . . .	9—	2.06	1.61
Over 50 hectares (1) . . . . .	4.68	1.39	0.67

(1) The corresponding average sizes, in hectares of cultivable agricultural land, were: 15.40; 25.13; 39.56; 74.01. The smallest was 4.40 hectares and the largest 139 hectares.

The average receipts (total income) and expenditure (working expenses) of the farmer in 1929-30 in the different types of farm were:

SIZE-GROUP	Total income		Working expenses		Net income	
	Per farm	Per hectare of cultivable agricultural land	Per farm	Per hectare of cultivable agricultural land	Per farm	Per hectare of cultivable agricultural land
	CROWNS	CROWNS	CROWNS	CROWNS	CROWNS	CROWNS
Up to 20 hectares . . . . .	2,579.35	167.49	2,455.38	159.44	123.97	8.05
From 20 to 30 hectares . . . . .	3,210.86	127.77	2,990.47	119.00	220.39	8.77
From 30 to 50 hectares . . . . .	4,431.91	112.03	4,075.87	103.03	356.04	9.00
Overs 50 hectares . . . . .	5,658.80	76.46	5,312.44	71.78	346.37	4.68

The income of the farmers consists, according to the information supplied by the Accountancy Office, in the main, of the receipts from agricultural production.

In 1929-30, the total income was thus distributed (by percentages) in the different types of holding:

SIZE-GROUP	Increase of supplies on land and of field inventory	Arable farming	Animal husbandry	Other source of income
Up to 20 hectares . . . . .	4.71	24.41	58.85	12.03
From 20 to 30 hectares . . . . .	5.30	22.33	59.51	12.86
From 30 to 50 hectares . . . . .	4.79	23.38	58.57	13.26
Over 50 hectares . . . . .	6.80	23.70	57.59	11.91

The earnings for work done outside the holding are trifling. The following table compiled from statistics supplied by the Accountancy Office shows the situation in detail:

SIZE-GROUP	Total cash receipts		Receipts not derived from the farm (1)			
			For work done by horses (animal husbandry account)		For work done outside the farm	
	Per farm	Per hectare of cultivable agricultural land	Per farm	Percentage of total cash receipts	Per farm	Percentage of total cash receipts
Up to 20 hectares . . . . .	1,493.96	97.01	18.79	1.41	12.48	0.83
From 20 to 30 hectares . . . . .	1,940.64	77.20	8.54	0.53	4.78	0.24
From 30 to 50 hectares . . . . .	3,154.51	79.74	8.30	0.34	5.54	0.17
Over 50 hectares . . . . .	3,575.42	48.31	5.18	0.18	5.42	0.15

(1) Item ' Other sources of income '.

Of the total return of the farms, on the average 42 per cent. is reserved for consumption on the farm and 58 per cent. is sent to market, the consumption on the farm and the produce marketed being about twice as much per hectare of cultivable agricultural land on the small farms as on the large farms :

SIZE-GROUP	Consumption on the farm			Production for the market		
	Per farm	Per hectare of cultivable agricultural land	Percentage of total production	Per farm	Per hectare of cultivable agricultural land	Percentage of total production
	<b>CROWNS</b>	<b>CROWNS</b>		<b>CROWNS</b>	<b>CROWNS</b>	
Up to 20 hectares . . . . .	1,037	67.34	43.15	1,366	88 70	56 85
From 20 to 30 hectares . . . . .	1,434	57.06	45.05	1,749	69 60	54.95
From 30 to 50 hectares . . . . .	1,816	45 90	41.58	2,552	64 51	58.42
Over 50 hectares . . . . .	2,239	30.25	38.97	3,507	47.39	61.03

Of the expenses incurred in working the farm 62 per cent. on the average was in respect of labour and 38 per cent. in respect of other working expenses, for example, additional purchases, repayment of debts, etc. This proportion is nearly constant in all the size-groups (in the small farms of less than 20 hectares, 63.28 and 36.72 per cent. and in the large farms of more than 50 hectares, 60.48 and 39.52 per cent. The greater part of the expenses in respect of labour is represented by the wage claim for unpaid labour of the operator and his family: in small farms this represent 78 per cent. of the total labour costs; in the farms from 20 to 30 hectares, 76 per cent.; in those from 30 to 50 hectares 59 and in the large holdings 54 per cent.

The labour costs in 1929-30 were as follows :

SIZE-GROUP	Per farm	Per hectare of cultivable agricultural land		
		Wages of hired labour	Wage claim for unpaid labour of the operator and his family	Total
	<b>CROWNS</b>	<b>CROWNS</b>	<b>CROWNS</b>	<b>CROWNS</b>
Up to 20 hectares . . . . .	1,553.71	21.99	78.90	100 89
From 20 to 30 hectares . . . . .	1,883.99	18.02	56.95	74 97
From 30 to 50 hectares . . . . .	2,429 38	25.40	36 01	61.41
Over 50 hectares . . . . .	3,212 78	19.78	23.63	43.41

The income from agriculture (family capital return, remuneration of the farmer) was larger in the small farms, while the return on capital was small in proportion to the remuneration of the farmer.

SIZE GROUP	Agricultural income in 1929-30		
	Per farm	Per hectare of cultivable agricultural land	Per 100 crowns of working capital
	CROWNS	CROWNS	CROWNS
Up to 20 hectares . . . . .	1,160 88	75 77	15 61
From 20 to 30 hectares . . . . .	1,558 56	62 02	14 33
From 30 to 50 hectares . . . . .	1,040 88	41 48	9 79
Over 50 hectares . . . . .	1,755 72	23 72	7 04

The figures given above on the returns from Estonian agriculture prove that, in present conditions, the small farm is more profitable than the large farm and that it provides a larger income per unit of area. The gross return of small farms per hectare of cultivable agricultural land is twice as large as that of the large farms. The gross return in the small farms was 104.28 crowns per hectare; in farms from 20 to 30 hectares, 84.63 crowns per hectare; in farms from 30 to 50 hectares, 70.95 crowns per hectare, and in large farms, 48.83 crowns per hectare. This fact proves that the agrarian reform was justified from the economic point of view.

#### V. — CONCLUSION.

Speaking generally, the agrarian reform has developed satisfactorily and may be regarded as almost complete, as far as the distribution of land is concerned. It will still be necessary to consolidate the old rented holdings and to divide the lands assigned to the reserve at the moment of the initial distribution, a work which will be completed during the year 1933. To register the farms in the name of the occupiers will require another three or four years. In the newly formed settlement holdings, the buildings have been for the most part constructed, most of the necessary stock has been purchased and the increase of the agricultural production of the holdings is in continual progress.

Thanks to the agrarian reform, Estonian agriculture has been able to acquire new strength by attracting to itself persons endowed with a wider outlook and free from that naturally conservative spirit which opposes every novelty in agriculture, persons who, therefore, assure its economic development. The situation of all those who have obtained land as a result of the agrarian reform has, of course, been improved. To pass from the condition of a worker or a temporary tenant to that of a landowner is in itself of great value from the merely psychological point of view; it increases the joy of labour, awakens a love of country life and of the native land and assures a positive mentality. Although economic independence has brought with it some anxieties, the economic condition of those who have obtained it has certainly improved and their standard of life has



been raised. This is indicated, amongst other signs, by the large dwelling-houses of thousands of new holdings, by the numerous new orchards and by the greater demand for imported colonial produce.

If formerly the development of peasant economy in Estonia already rested, in the main, on various agricultural undertakings and co-operative societies, the agrarian reform could not fail to bring about their more rapid development. The number of agricultural co-operative societies has greatly increased since the agrarian reform. In 1920 there were in country districts 385 agricultural co-operative societies; in 1928 their number was 1,900, that is, it had increased more than fivefold.

The business of the co-operative societies has increased even more than the number.

The agrarian reform offered a favourable opportunity for the establishment of agricultural schools and household management schools, the number of which is at present 33. In addition, there are 10 experiment stations, at which not only are experiments made, but instruction and advice are given to farmers. Seed-selecting stations and live stock improvement stations have also been created; the latter include 112 pig-breeding stations and 399 cattle breeding stations.

The spread of general education and the organisation of public benevolent institutions have also appreciably benefited by the agrarian reform. By utilising the large mansions on the noble estates which previously served for the summer residence of the great landowners, it has been possible to create a network of elementary schools corresponding to the existing need and also to establish a series of benevolent institutions: orphanages and almshouses, asylums and educational institutions.

The steadily growing interest of the rural population in political questions and the influence which they exert from the point of view of agricultural interests may also be considered as results of the agrarian reform. Of 100 members of the legislative assembly 39 belong to agricultural political associations, whereas at the beginning of the existence of Estonia as an independent State, only eight such persons were members of the constituent assembly.

The great Russian revolution set in motion the elemental forces of the popular masses in the interest of their liberation from the economic, social and national oppression under which they had previously lived.

At that moment, the agrarian reform was the only means of preventing the triumph of bolshevism. Without the agrarian reform it would have been impossible to attain either social harmony or national independence.

The agrarian reform has assured social peace to future generations by creating a numerous and stable class, attached to its homes, and by supplying to a large part of the nation the possibility of devoting its efforts to constructive work.

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# MONTHLY BULLETIN

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## AGRICULTURAL ECONOMICS AND SOCIOLOGY

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### FARM ECONOMICS.

#### Provisional Results of Farm Accountancy for 1929-30

In 1931 the International Institute of Agriculture published, in a provisional form only, a *Recueil* of statistics containing farm accountancy results for 1927-28, relating to 16 European countries. The Institute has now, in 1932, published the first volume of a series of annual publications which will contain these results for the succeeding financial years in respect of European and overseas countries. Sixteen European countries are represented in this first volume of Farm Accountancy Statistics based on the data for 1928-29. At the beginning of 1933 the Institute will publish the results for the financial years 1929-30 as collected for some twenty European countries, and also it is hoped for some of the overseas countries, especially United States of America, Canada and Japan.

In this article will be found, grouped by countries, the *provisional results* of the farm accountancy undertaken in 1929-30 in the countries from which data have already been received. For the sake of useful comparisons, the corresponding results for 1927-28 and 1928-29 have been inserted.

#### DEFINITION OF TERMES.

*Gross return* — The gross return is the total increase of value obtained in one year in the farm through transformation, exchange and revaluation.

*Cost of production.* — Farm expenses (1), plus interest claim to be charged on the farm assets.

*Family Farm Earnings.* — Is the fraction of the gross return which the farmer and his family could have used up without the net capital being diminished.

*Family Capital Return.* — Family farm earnings minus a fair wage claim for unpaid labour of the farmer and his family.

*Net Return on Total Farm Assets.* -- Part of the gross return which may be considered as the interest effectively earned on the whole agricultural assets (gross return minus farm expenses).

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(1) The farm expenses consist in the cost of labour, including a fair wage for the members of the family working on the farm, current expenses in cash and in kind (including taxes), decrease in value of stocks and of field inventory, and depreciation charges.

## A) — Peasant farms.

COUNTRIES	YEARS	NUMBER OF FARMS	AVERAGE AREA in ha.	Family farm earnings per ha.	Part of family farm earnings consumed by the family per ha.	Increase or decrease in own capital (Family farm earnings minus consumption per ha. 3 (1-2))
I	II	III	IV	1	2	3 (1-2)
ENGLAND (Cambridge) . . . . .	1929-30 . . . . .	141	28.31	—	—	—
	1928-29 . . . . .	1	17 —	486.62	—	—
SCOTLAND . . . . .	1929-30 . . . . .	6	44.45	—	—	—
NETHERLANDS (Overijssel) . . . . .	1929-30 . . . . .	431	15.94	330.87	—	—
	1928-29 . . . . .	2,201	29.47	122.10	—	—
DENMARK . . . . .	1929-30 . . . . .	618	23.15	—	—	—
	1928-29 . . . . .	599	22.68	—	—	—
	1927-28 . . . . .	573	22.65	—	—	—
GERMANY . . . . .	1929-30 . . . . .	2,222	33.81	80.27	—	—
	1928-29 . . . . .	1,946	33.39	—	—	—
	1927-28 . . . . .	1,637	44.25	—	—	—
SWITZERLAND . . . . .	1929-30 . . . . .	501	1) 15.19	376 —	—	—
	1928-29 . . . . .	504	14.66	350.31	69.31	281 —
	1927-28 . . . . .	500	14.30	—	—	—
AUSTRIA . . . . .	1929-30 . . . . .	896	2) 28.65	127.06	—	—
	1928-29 . . . . .	743	29.67	128.15	—	—
	1927-28 . . . . .	397	24.66	—	—	—
CZECHOSLOVAKIA . . . . .	1929-30 . . . . .	202	17.52	230.21	—	—
	1928-29 . . . . .	228	17.37	223.40	—	—
	1927-28 . . . . .	221	17.56	—	—	—
BULGARIA . . . . .	1929-30 . . . . .	4	2) 9.09	377.90	—	—
	1928-29 . . . . .	5	15.54	—	—	—
RUMANIA 4) . . . . .	1928-29 . . . . .	63	2) 29.06	—	—	—
HUNGARY . . . . .	1929-30 . . . . .	34	2) 14.72	144.37	—	—
POLAND . . . . .	1929-30 . . . . .	793	3) 13.59	109.47	—	—
	1923-29 . . . . .	855	13.34	142.63	—	—
	1927-28 . . . . .	804	13.64	—	—	—
LITHUANIA . . . . .	1929-30 . . . . .	100	37.34	55.17	—	—
	1928-29 . . . . .	95	33.33	45.47	—	—
LATVIA . . . . .	1929-30 . . . . .	102	2) 40.55	69.64	—	—
	1928-29 . . . . .	132	41.54	35.77	—	—
	1927-28 . . . . .	117	45.57	—	—	—
ESTHONIA . . . . .	1929-30 . . . . .	260	2) 38.72	70.69	—	—
	1928-29 . . . . .	260	41.09	57.20	—	—
	1927-28 . . . . .	250	41.84	64.78	—	—
FINLAND . . . . .	1929-30 . . . . .	524	21.77	111.10	—	—
	1928-29 . . . . .	474	22.13	128.13	—	—
	1927-28 . . . . .	414	22.97	—	—	—
NORWAY . . . . .	1929-30 . . . . .	191	16.39	—	—	—
	1928-29 . . . . .	172	16.60	—	—	—
	1927-28 . . . . .	190	17.26	—	—	—
SWEDEN . . . . .	1929-30 . . . . .	295	15.21	—	—	—
	1928-29 . . . . .	242	11.42	—	—	—
	1927-28 . . . . .	286	11.35	—	—	—

1) Including forests, waters and waste lands. — 2) Including forests. — 3) Including forests and waters. — 4) The results

*Final results in gold francs.*

Fair wage claim for unpaid labour of farmer and his family	Return on own capital per ha.	Interest paid on farm debts	NET RETURN		PROFIT OR LOSS ON TOTAL FARM ASSETS			INTEREST RETURN ON LANDLORD'S CAPITAL		FAMILY LABOUR EARNINGS		Labour costs per man's working day (for family and employees)
			per ha.	in % of total farm assets	per ha.	IN %		per ha.	in % of land-lord's capital	per ha.	per man's working day (for family)	
						of the gross return	of total farm assets					
4	5 (1-4)	6	7 (5+6)	8	9	10	11	12	13	14	15	16
24.74	—	—	35.20	1.61	—	—	—	—	—	—	—	—
154.10	332.52	—	332.52	9.40	168.50	13.21	4.77	282.98	10.36	437.05	—	13.85
—	—	—	103.73	5.72	—	—	—	—	—	—	—	—
—	—	—	165.95	3.89	41.52	4.38	0.98	130.08	3.67	—	—	5.21
—	—	—	—	—	—	—	—	—	—	—	—	—
159.73	—	—	177.25	5.49	21.81	2.03	0.67	127.85	5.33	181.54	—	8.12
164.29	—	—	202.86	6.24	47.21	4.23	1.45	156.07	6.33	211.50	—	8.42
166.19	—	—	58.86	1.78	99.77	9.87	3.02	10.51	0.42	67.57	—	8.56
96.14	—15.87	53.73	37.86	—	—	—	—	—	—	—	—	—
96.31	—	—	54.05	—	—	—	—	—	—	—	—	—
73.50	—	—	16.01	—	—	—	—	—	—	—	—	—
321 —	55 —	200 —	255 —	4 —	89 —	6.83	1.15	163 —	2.78	—	6 —	7.70
342.34	7.97	178.65	186.62	2.63	162 —	12.90	2.09	92.34	1.56	—	4.35	7.72
355.11	—	—	123.98	1.76	233.45	19.14	3.31	27.43	0.50	—	2.87	7.81
94.71	32.35	10.48	42.83	2.51	42.48	13.06	2.49	11.93	1 —	—	1.28	2.42
89.78	38.37	9.82	48.19	2.93	34.13	10.68	2.07	23.35	2.03	—	—	2.35
107.78	—	—	77.77	4.41	—	—	—	—	—	—	—	2.98
160.53	69.68	12.04	81.72	2.83	91.54	—	3.17	33.53	1.61	—	—	2.75
113.06	110.34	28.04	138.38	5.12	25.40	—	0.94	87.69	4.32	—	—	2.40
119.89	—	—	143.33	5.83	—	—	—	95.38	5.51	—	—	2.40
166.80	211.10	21.80	232.90	12.81	87.50	14.76	4.81	200 —	14.32	—	—	2.19
140.43	—	—	228.89	10.41	56.94	—	2.59	199.69	10.93	—	—	2.17
14.80	—	—	39.37	5.20	42.49	54.40	5.62	27.01	4.01	—	—	—
117.71	26.66	10.60	37.26	1.42	93.46	28.60	3.58	16.14	0.73	—	0.67	4.32
77.08	32.39	27.87	60.26	2.65	76.24	26.30	3.35	24.83	1.27	—	0.07	1.78
83.53	59.10	27.47	86.57	3.84	48.67	14.30	2.16	50.77	2.63	—	0.91	2.07
73.51	—	—	117.06	6.45	8 —	2.34	0.44	87.76	5.71	—	—	1.87
30.51	24.66	7.65	32.31	3.24	27.56	17.03	2.76	16.16	2.22	2.08	—	2.19
33.10	12.37	4.74	17.11	1.62	46.31	29 —	4.38	0.55	0.07	—	—	2.65
48.42	21.22	3.11	28.33	3.97	4.51	2.67	0.74	12.94	3.32	—	1.79	3.38
47.99	—12.22	2.72	9.50	1.16	38.34	26.12	6.29	21.59	5.59	—	—	3.42
44.17	—	—	18.56	2.90	16.31	10.46	2.52	3.73	0.90	—	1.09	3.57
63.70	6.99	4.01	11 —	1.88	24.15	14.79	4.12	4.77	1.22	—	1.70	3.47
62.33	— 5.13	18.16	13.03	2.27	21.38	12.91	3.73	2.59	0.69	—	1.85	3.56
62.47	2.31	17.15	19.46	3.43	20.27	12.04	3.58	1.57	0.43	—	2.11	3.55
92.45	18.65	15.57	34.22	2.64	74.72	23.48	5.76	3.24	0.33	—	—	4.37
95.03	33.10	8.15	41.25	3.29	64.98	18.67	5.19	10.82	1.14	—	—	4.13
89.89	—	—	58.70	5.10	39.43	11.50	3.41	30.18	3.47	—	—	4.01
152.75	—	—	108.50	2.15	148.13	17.02	2.93	38.59	0.99	—	—	5.62
163.51	—	—	106.08	1.95	171.11	18.12	3.14	29.09	0.70	—	—	5.90
204.38	—	—	90.17	1.66	186.93	19.63	3.43	12.13	0.29	—	—	5.99
—	—	—	70.59	2.91	58.27	10.11	2.40	25.29	1.51	—	—	—
—	—	—	49.98	2.27	66.89	15.38	3.04	6.03	0.41	—	—	—
—	—	—	51.88	2.35	65.67	13.04	2.97	9.27	0.62	—	—	—



## A) — Peasant farms.

COUNTRIES	YEAR	NUMBER OF FARMS	AVERAGE AREA in ha.	TOTAL labour in man's working days per ha. (family and employees)	PER	
					Labour costs	
					Hired labour	Family labour
I	II	III	IV	V	1	2
ENGLAND (Cambridge)	1929-30 . . . . .	141	28.31	—	145.19	24.74
	1928-29 . . . . .	1	17 —	27.29	223.76	154.10
SCOTLAND . . . . .	1929-30 . . . . .	6	44.55	—	120.16	
NETHERLANDS (Overijssel) . . . . .	1929-30 . . . . .	431	15.94	59.50	136 —	174.09
DENMARK . . . . .	1929-30 . . . . .	618	23.15	41.60	178.32	159.73
	1928-29 . . . . .	599	22.68	40.37	175.80	164.29
	1927-28 . . . . .	573	22.65	41.09	185.41	166.19
GERMANY . . . . .	1929-30 . . . . .	2,222	33.81	—	182.10	96.14
	1928-29 . . . . .	1,946	33.39	—	187.11	96.31
	1927-28 . . . . .	1,637	44.25	—	186.02	73.50
SWITZERLAND . . . . .	1929-30 . . . . .	501	15.19	70 —	218 —	321 —
	1928-29 . . . . .	504	14.66	73 —	221 —	342.34
	1927-28 . . . . .	500	14.30	75 —	231.03	355.11
AUSTRIA . . . . .	1929-30 . . . . .	896	28.65	69 —	72.27	94.71
	1928-29 . . . . .	743	29.67	69.69	74.05	89.78
	1927-28 . . . . .	397	24.66	64.25	83.88	107.78
CZECHOSLOVAKIA . . . . .	1929-30 . . . . .	202	17.52	98.64	110.84	160.53
	1928-30 . . . . .	228	17.37	98.26	122.87	113.06
	1927-28 . . . . .	221	17.56	100.94	122.84	119.89
BULGARIA . . . . .	1929-30 . . . . .	4	9.09	86.90	23.70	166.80
	1928-29 . . . . .	5	15.54	84.26	42.49	140.43
RUMANIA . . . . .	1928-29 . . . . .	63	29.06	—	7.62	14.80
HUNGARY . . . . .	1929-30 . . . . .	34	14.72	40.69	57.89	117.71
POLAND . . . . .	1929-30 . . . . .	793	13.59	66.91	42.11	77.08
	1928-29 . . . . .	855	13.54	64.21	49.07	83.53
	1927-28 . . . . .	804	13.64	66.61	51.29	73.51
LITHUANIA . . . . .	1929-30 . . . . .	100	37.34	35.27	46.92	30.51
	1928-29 . . . . .	95	33.33	31.24	49.87	33.10
LATVIA . . . . .	1929-30 . . . . .	102	40.55	24.86	35.63	48.42
	1928-29 . . . . .	132	41.54	25.48	39.20	47.99
	1927-28 . . . . .	117	45.57	25.50	46.84	44.17
ESTHONIA . . . . .	1929-30 . . . . .	260	38.72	27 —	30.04	63.70
	1928-29 . . . . .	260	41.09	26.55	32.33	62.33
	1927-28 . . . . .	250	41.84	26.60	32 —	62.47
FINLAND . . . . .	1929-30 . . . . .	524	21.77	37.48	71.37	92.45
	1928-29 . . . . .	474	22.13	42.30	79.66	95.03
	1927-28 . . . . .	414	22.97	41.77	77.50	89.89
NORWAY . . . . .	1929-30 . . . . .	191	16.39	64 —	207.11	152.75
	1928-29 . . . . .	172	16.60	66.49	228.79	163.51
	1927-28 . . . . .	190	17.26	70 —	215.15	204.38
SWEDEN . . . . .	1929-30 . . . . .	295	12.21	—	270.81	—
	1928-29 . . . . .	242	11.42	—	264.67	—
	1927-28 . . . . .	286	11.35	—	266.92	—

*Final results in gold francs (Continued).*

SOCIAL INCOME									GROSS RETURN		FARM EXPENSES		
HA.			In °						Per man's day (family and employees)	per ha.	Per man's day (family and employees)	per ha.	Per man's day (family and employees)
Net return	Taxes and rates	TOTAL 5 (1 to 4)	Labour costs		Net return	Taxes and rates	TOTAL 10 (6 to 9)						
			Hired labour	Family labour									
3	4		6	7	8	9		11	12	13	14	15	
35.20	82.62	287.75	50.46	8.60	12.23	28.71	100 —	—	615.58	—	580.38	—	
332.52	—	710.38	31 50	21 69	46.81	—	100 —	26.02	1,275.71	46.75	943.19	31.56	
103.73	43.08	266.97	45.01		38.85	10.14	100 —	—	423.26	—	318.53	—	
165.95	11.18	487.22	27.91	35.73	31.06	2.30	100 —	8.19	946.76	15.91	780.81	13.12	
177.25	32.93	548.23	32 53	29.13	32.33	6.01	100 —	13.17	1,073.33	25.79	896.08	21.53	
202.86	35.46	578.41	30.40	28.40	35.07	6.13	100 —	14 32	1,115.99	27.64	913.13	22.62	
58.86	38.46	448.92	41 30	37.02	13.12	8.56	100 —	10.92	1,010.30	24.59	951.44	23.15	
37 86	32.01	348.11	52.31	27.62	10.88	9.19	100 —	—	641.51	—	603.65	—	
54.05	35.86	373.33	50.12	25 80	14.47	9.61	100 —	—	676.28	—	622.23	—	
16.01	30.14	305.67	60.86	24.05	5.23	9.86	100 —	—	561.30	—	545.29	—	
255 —	30 —	824 —	26.45	38.96	30.95	3.64	100 —	11.78	1,303 —	18.01	1,048 —	14.97	
186.62	28.10	778.06	28.40	44 —	23.09	3.61	100 —	10.66	1,258.67	17.24	1,072.05	11 68	
123.98	28.95	739.07	31.26	48.05	16.78	3.91	100 —	9.86	1,219.67	16.26	1,095.69	14.60	
42.83	12 47	222.28	32.51	42.61	19.27	5.61	100 —	3.22	325.22	4.71	282.39	4.09	
48.19	11 —	223.02	33.20	40.25	21.61	4.94	100 —	3.20	318 —	4.56	269.81	3.87	
77.77	11.57	281 —	29.86	38.35	27.67	4.12	100 —	4.37	379.36	5.90	301.59	4.69	
81.72	14.84	367.93	30.13	43.63	22.21	4.03	100 —	3.73	—	—	—	—	
138.38	14.99	389 30	31.56	29.04	35 55	3.85	100 —	3.96	—	—	—	—	
143.33	16.01	402.07	30.35	29.82	35.65	3.98	100 —	3.98	—	—	—	—	
232.90	18 —	441.40	5.37	37 70	52.76	4.08	100 —	5.08	592.70	6.82	359.80	4.14	
228.89	20.39	432 20	9.83	32.49	52.96	4.72	100 —	5.13	—	—	—	—	
39.37	4.04	65 83	11.58	22.49	59.79	6.14	100 —	—	78.12	—	38.75	—	
37 26	16.89	229.75	25.20	51.23	16.22	7 35	100 —	5.64	326.70	8.03	289.44	7.11	
60.26	6.54	185.99	22.64	41.44	32.40	3.52	100 —	2.78	289.87	4.31	229.61	3.43	
86.57	6.72	225.89	21 72	36.97	38.33	2.98	100 —	1.42	340.40	5.30	253.83	3.95	
117.06	5.33	247.19	20.75	29.74	47.36	2.15	100 —	3 71	341.14	5.12	224.08	3.36	
32.31	4.49	114.23	41.07	26.71	28.29	3.93	100 —	3.24	161.87	4.59	129.56	3.67	
17 11	4.05	104.13	47.89	31.79	16.43	3.89	100 —	3.33	159.71	5 11	142.60	4.56	
24.33	1.92	110.30	32.30	43.00	22.06	1.74	100 —	4.44	169.20	6.81	144.87	5.83	
— 9.50	2.16	79.85	49.09	60.10	11.89	2.70	100 —	3.31	146.73	5.75	156.23	6.13	
18.56	2.95	112.52	41.63	39.26	16.49	2.62	100 —	4.39	156.11	6.12	137.55	5.39	
11 —	2.44	107.18	28.03	59.43	10.26	2.28	100 —	3.97	163.27	6.05	152.27	5.64	
13.03	2.60	110.29	29.31	56.51	11.82	2.36	100 —	4.16	165.63	6.23	152.60	5.75	
19.46	2.66	116.59	27.44	53.58	16.70	2.28	100 —	4.38	168.15	6.32	148.69	5.59	
34.22	4.36	202.40	35.26	45.68	16.91	2.15	100 —	5.40	318.25	8.49	284.03	7.58	
41.25	6.79	222.73	35.76	42.67	18.52	3 05	100 —	5.26	347.96	8.23	306.71	7.25	
58.70	—	226.09	34.27	39.76	25.97	—	100 —	5.42	342.39	8.20	283.69	6.79	
108.50	5.47	473.83	43.71	32.24	22.90	1.15	100 —	7.40	870.46	13.60	761.96	11.91	
106.08	5.76	504.14	45.39	32.43	21.04	1.14	100 —	7.58	944.18	14.20	838.10	12.61	
90.17	5.73	515.43	41.75	39.66	17.43	1.11	100 —	7.33	952.29	13.60	862.12	12.32	
70.59	—	341.40	79.32		20.68	—	100 —	—	576 02	—	505.43	—	
49.98	—	314.65	84.12		13.88	—	100 —	—	500.10	—	450.12	—	
51.88	—	320.80	83.83		16.17	—	100 —	—	502.90	—	451.02	—	

## B) — Large farms.

COUNTRIES	YEAR	NUMBER OF FARMS	AVERAGE AREA in ha.	Family farm earnings per ha.	Part of family farm earnings consumed by the family per ha.	Increase or decrease in own capital (Family farm earnings minus consumption per ha.
	II	III	IV	1	2	3 (1-2)
ENGLAND (Cambridge)	1929-30	162	119.38	—	—	—
	1928-29	12	129 —	—	—	—
SCOTLAND	1929-30	120	151.90	—	—	—
DENMARK	1929-30	167	117.35	—	—	—
	1928-29	155	121.27	—	—	—
	1927-28	153	122.43	—	—	—
GERMANY	1929-30	1,255	270.62	26.68	—	—
	1928-29	1,034	243.60	—	—	—
	1927-28	656	345.89	—	—	—
CZECHOSLOVAKIA	1929-30	25	82.55	84.68	—	—
	1928-29	30	92.66	103.82	—	—
	1927-28	26	99.99	—	—	—
FINLAND	1929-30	80	88.31	34.70	—	—
	1928-29	72	82.24	38.13	—	—
	1927-28	75	88.17	—	—	—
SWEDEN	1929-30	125	192.94	—	—	—
	1928-29	113	207.66	—	—	—
	1927-28	96	209.83	—	—	—

COUNTRIES	YEAR	NUMBER OF FARMS	AVERAGE AREA in ha.	TOTAL labour in man's working days per ha. (family and employees)	PER	
					Labour costs	
					Hired labour	Family labour
I	II	III	IV	V	1	2
ENGLAND (Cambridge)	1929-30	162	119.38	—	148.87	13.63
	1928-29	12	129 —	30.95	220.95	39.04
SCOTLAND	1929-30	120	151.90	—	148.75	
DENMARK	1929-30	167	117.35	30.37	199.35	56.50
	1928-29	155	121.27	31.03	197.27	54.20
	1927-28	153	122.43	31.66	204.36	57.51
GERMANY	1929-30	1,255	270.62	—	221.39	14.13
	1928-29	1,034	243.60	—	229.46	14.37
	1927-28	656	345.89	—	212.30	11.54
CZECHOSLOVAKIA	1929-30	25	82.55	65.73	154.68	31.47
	1928-29	30	92.66	63.43	165.13	16.85
	1927-28	26	99.99	67.93	162.10	14.98
FINLAND	1929-30	80	88.31	25.78	98.92	23.57
	1928-29	72	82.24	29.33	118.24	21.52
	1927-28	75	88.17	29.11	112.52	21.45
SWEDEN	1929-30	125	192.94	—	232.40	
	1928-29	113	207.66	—	244.31	
	1927-28	96	209.83	—	245.11	

*Final results in gold francs.*

Fair wage claim for unpaid labour of farmer and his family	Return on own capital per ha.	Interests paid on farm debts	NET RETURN		PROFIT OR LOSS ON TOTAL FARM ASSETS			INTEREST RETURN ON LANDLORD'S CAPITAL		FAMILY LABOUR EARNINGS		Labour costs per man's working day (for family and employees)
			per ha.	in % of total farm assets	per ha.	IN %		per ha.	in % of land-lord's capital	per ha.	per man's working day (for family)	
						of the gross return	of total farm assets					
4	5 (1-4)	6	7 (5+6)	8	9	10	11	12	13	14	15	16
—	—	—	12.40	0.64	—	—	—	—	—	—	—	—
39.04	—	—	80.19	3.08	42.39	5.36	1.63	27.45	1.62	66.52	—	8.40
—	—	—	29.24	1.45	—	—	—	—	—	—	—	—
56.50	—	—	116.72	4.33	10.45	1.37	9.39	80.14	3.83	46.05	—	8.42
54.20	—	—	170.56	6.39	45.30	5.49	1.70	136.34	6.50	99.49	—	8.10
57.51	—	—	47.21	1.73	80.94	11.21	2.96	12.96	0.60	23.44	—	8.27
14.13	40.81	67.66	26.85	—	—	—	—	—	—	—	—	—
14.37	—	—	31.62	—	—	—	—	—	—	—	—	—
11.54	—	—	6.71	—	—	—	—	—	—	—	—	—
31.47	53.21	42.06	95.27	4.35	36.03	—	1.65	52.95	3.57	—	—	2.83
16.85	86.97	36.25	123.22	6.28	5.56	—	0.28	77.21	6.04	20.93	—	2.87
14.98	—	—	169.78	8.89	—	—	—	126.27	10 —	—	—	2.61
23.57	11.13	17.62	28.75	2.32	75.90	28.05	6.14	0.02	—	—	—	4.75
21.52	16.61	12.66	29.27	2.41	73.43	23.68	6.05	0.78	0.08	—	—	4.76
21.43	—	—	46.96	4.26	46.54	14.90	4.22	20.17	2.42	—	—	4.60
—	—	—	32.37	1.47	85.15	16.08	3.86	10.45	0.70	—	—	—
—	—	—	49.58	3.30	65.25	11.39	3.03	5.76	0.41	—	—	—
—	—	—	25.37	1.17	89.79	16.63	4.16	18.92	1.33	—	—	—

SOCIAL INCOME									GROSS RETURN		FARM EXPENSES		
HA.			IN %						Per man's day (family and employees)	per ha.	Per man's day (family and employees)	per ha.	Per man's day (family and employees)
Net return	Taxes and rates	TOTAL	Labour costs		Net return	Taxes and rates	TOTAL						
			Hired labour	Family labour									
3	4	5 (1 to 4)	6	7	8	9	10 (6 to 9)	11	12	13	14	15	
12.40	64.52	239.42	62.18	5.69	5.18	26.95	100 —	—	476.55	—	464.15	—	
80.19	—	340.18	64.95	11.48	23.57	—	100 —	10.98	791.26	25.56	711.07	22.97	
29.24	62.90	240.89	61.75		12.14	26.11	100 —	—	446.09	—	416.85	—	
116.72	31.89	404.46	49.29	13.97	28.86	7.88	100 —	13.32	760.60	25.04	643.88	21.20	
170.56	34.66	456.69	43.19	11.87	37.35	7.59	100 —	14.72	824.28	26.56	653.72	21.07	
47.21	36.08	345.16	59.21	16.66	13.68	10.45	100 —	10.91	721.47	22.79	674.26	21.30	
26.85	27.95	290.32	76.26	4.86	9.25	9.63	100 —	—	535.05	—	508.20	—	
31.62	32.29	307.74	74.56	4.67	10.27	10.10	100 —	—	567.59	—	535.97	—	
6.71	25.18	242.31	87.61	4.76	2.76	10.39	100 —	—	478.06	—	484.77	—	
95.27	16.16	297.58	51.98	10.58	32.01	5.43	100 —	4.53	—	—	—	—	
123.22	16.98	322.18	51.25	5.23	38.25	5.27	100 —	5.08	—	—	—	—	
169.78	18.42	365.28	44.37	4.10	46.49	5.04	100 —	5.38	—	—	—	—	
28.75	5.22	156.46	63.22	15.07	18.37	3.34	100 —	6.07	270.60	10.49	241.85	9.38	
29.27	6.80	175.83	67.25	12.24	16.64	3.87	100 —	5.99	310.06	10.57	280.79	9.57	
46.96	—	180.91	62.19	11.85	25.96	—	100 —	6.22	312.35	10.73	265.39	9.12	
32.37	—	264.77	87.77		12.23	—	100 —	—	529.46	—	497.09	—	
49.58	—	293.89	83.13		16.87	—	100 —	—	572.57	—	522.99	—	
25.37	—	270.48	90.62		9.38	—	100 —	—	539.86	—	514.49	—	

*Profit or Loss on Total Farm Assets.* — Gross return minus total cost of production. In case of a loss, the loss will indicate the deficit left after covering the total cost of production: in case of a profit, the profit will indicate the gain made after covering the same expense.

*Interest Return on Landlord's Capital* — Net return minus a fair interest claim on the tenant's or operating capital.

*Family Labour Earnings* — This can be found by subtracting from the family farm earnings a fair interest claim on own capital invested.

*Social Income.* — The social income can be computed by adding together the net return on agricultural assets, a fair wage claim for the unpaid labour of the farmer and his family, the wages paid to employees (including board), and the taxes. The social income is the total income of the farming enterprise which goes to the farmer, to the creditors, and also to the State.

## LAND SYSTEMS

### Rural Settlement in Post-war Germany.

In any discussion of land settlement in Germany it is essential to distinguish very clearly between *rural settlement* and *suburban settlement*, or small farming in the immediate neighbourhood of the towns.

The principal object of *rural settlement* (*ländliche Siedlung*) is to form a number of new farming enterprises, in particular independent family farms, on which the main part of the work is done by the owner and the members of his family. At the same time, there are also formed by division of the large farms a certain number of small farms, the owners of these being farm labourers, artisans or small shopkeepers who must have some other occupation to depend on. A small area of land is also all that is necessary where a specialised type of farming is carried on. Side by side with these new farms, considerable importance also attaches to the enlargement of small farms by taking in of adjacent land (*Anliegersiedlung*) with the object of making them capable of providing maintenance for the family unit.

*Suburban settlement* (*Stadttrandsiedlung*) is the outcome of the present day mass of unemployment. The object is to establish unemployed persons on small areas in the immediate neighbourhood of towns and giving them the opportunity of improving their situation by putting up a dwelling and growing some part of the food they require. Like any other measure which aims at improving the position of the unemployed, this form of settlement has much to recommend it. But it is clear that it is a measure applicable mainly when it is a question of temporary unemployment only and when there is a prospect of eventual return to the previous occupation. During the period of unemployment the moral depression is undoubtedly lightened by work on a plot of land of one's own.

Considerations of space make it impossible to deal with the numerous problems and questions involved in this suburban settlement. The present

article will deal with rural settlement only and a short summary will be given of its organisation, the method of obtaining the necessary land, the financing and the results obtained up to the present

The centre of rural land settlement in Germany is to be found in the eastern provinces of Prussia. In the other regions the conditions essential to settlement on a large scale are not present, and in so far as settlement is in progress it takes the form of clearing of lands previously waste. This fact is abundantly clear on inspection of the different size categories of farms (see Table I) in the different parts of Germany. The distribution of agricul-

TABLE I. — *The Distribution of Agricultural Land among the Different Size Groups of Farms according to the Farm Census of 16 June 1925.*

	Total agricultural land in farms of 0.50 ha. and more 1000 ha.	Proportion of agricultural land in every 100 hectares assigned to the size group <sup>a</sup> of farms ha.				
		0.50 to 2	2 to 5	5 to 20	20 to 100	100 and over
Province of East Prussia . . . . .	2,323	2.5	4.0	21.2	32.5	39.2
Town of Berlin . . . . .	24	29.7	8.0	29.3	18.7	14.3
Province of Brandenburg . . . . .	1,969	4.3	6.4	27.1	27.8	34.4
" of Pomerania . . . . .	1,890	2.8	3.2	24.3	19.9	49.8
" of Grenzmark Posen-West Prussia, . . . . .	396	2.4	3.5	27.7	33.1	33.3
" of Lower Silesia . . . . .	1,601	3.6	9.2	32.8	21.3	33.1
" of Upper Silesia . . . . .	593	6.7	14.2	38.7	12.9	27.5
" of Saxony . . . . .	1,608	7.9	7.4	29.5	30.2	25.0
" of Schleswig-Holstein . . . . .	1,038	2.5	4.0	22.9	55.1	15.5
" of Hanover . . . . .	1,780	7.0	12.5	38.5	35.6	6.4
" of Westphalia . . . . .	993	10.1	14.6	40.7	31.3	3.3
" of Hesse-Nassau . . . . .	750	12.7	24.5	43.1	14.9	4.8
" Rhine Provinces . . . . .	1,137	11.8	21.3	43.3	20.3	3.3
Hohenzollern . . . . .	55	6.2	27.6	53.8	10.6	1.8
Prussia . . . . .	16,157	5.7	9.3	31.0	28.4	25.6
Bavaria . . . . .	3,948	4.4	14.6	53.8	24.7	2.5
Saxony . . . . .	928	5.5	8.8	42.8	29.4	13.5
Württemberg . . . . .	1,073	10.1	25.0	47.4	5.8	1.7
Baden . . . . .	638	17.0	31.0	41.2	8.1	2.7
Thuringia . . . . .	616	9.7	14.0	45.6	21.0	9.7
Hesse . . . . .	396	14.1	24.0	49.8	8.8	3.3
Hamburg . . . . .	18	19.4	6.5	28.1	37.5	8.5
Mecklenburg-Schwerin . . . . .	833	3.7	3.2	10.8	24.1	58.2
Oldenburg . . . . .	367	4.6	11.7	37.9	42.6	3.2
Brunswick . . . . .	208	12.4	8.1	30.7	31.4	17.4
Anhalt . . . . .	144	9.6	4.9	27.2	24.3	34.0
Bremen . . . . .	15	9.8	7.2	29.2	53.1	0.7
Lippe . . . . .	68	17.7	12.6	25.1	37.0	7.6
Lubeck . . . . .	17	6.9	3.9	10.6	59.1	19.5
Mecklenburg-Strelitz . . . . .	151	3.3	1.7	7.6	29.1	58.3
Schaumburg-Lippe . . . . .	21	19.3	13.9	45.4	17.1	4.3
Total and percentages for the Reich.	25,598	6.2	11.4	35.8	26.4	20.2

tural land among the different size groups may be considered as fairly favourable if Germany is taken as a whole. But the case is quite other if the different parts of the country are taken separately. Side by side with regions of small family farms there are found others which consist exclusively of large farm undertakings. The districts where large farming predominates are situated mainly to the east of the Elbe. According to the farm census of 1925, in the two Mecklenburgs, in the districts of Königsberg (East Prussia) and in Stralsund (Pomerania) over 50 per cent. of the agricultural land consists of large farms, that is, farms of 100 hectares and over. In the remainder of Eastern Germany more than 25 per cent. of the agricultural land is thus farmed. West of the Elbe in the larger administrative districts, the proportion of agricultural land represented by large farms exceeds 25 per cent. only in the districts of Magdeburg, Merseburg and Anhalt. In West and Southern Germany only a small percentage of agricultural land is taken up by large farms, the percentage in Westphalia being 3.3 per cent., in the Rhine Provinces 3.3, in Baden 2.7, and in Bavaria 2.5. The differences in respect of size of farms are to be explained by a combination of various circumstances. In addition to differences in economic and social development, there are also the natural characteristics of the different regions, their soils and their climate. In proportion as soil and climate favour the development of large farming, land settlement inevitably becomes more difficult.

The objects it is hoped to secure by land settlement are, in Germany as in other countries, demographic and social in character. These objects are too well known to make a detailed statement necessary. A complete or partial breaking up of the large farms will bring about the conditions favourable to a higher population density in the districts. The population of the districts characterised by large farms has undergone a shrinkage due to a migration which has exceeded any desirable proportion. The main causes of this excessive migration can only be counteracted by means of land settlement and it is only by this means that sound economic and social, and hence sound demographic, conditions can be re-established in the districts of large farming. If the land settlement question is regarded in Germany at the present time as of pressing importance, this is due to a number of reasons. In the first place land settlement can contribute to the solution of the unemployment problem in so far as it brings about not only increased opportunities of farm work but also a brisker movement on the general labour market of the district. Moreover land is essential to settlement, and at present it is possible to acquire, without recourse to coercive measures, sufficient land from the large farms for parcelling out. In spite of many measures designed for their conservation, there is a number of large farms which cannot in the long run be selfsupporting, and the lands of which can only be kept under cultivation if they are parcelled out into family farms. Nor is there any lack of settlers. The numbers are very large of those who are ready to undertake the most arduous farm work if only there is a prospect of an independent existence. In spite of its exacting nature and the slender returns to be expected, farm work has once more come into repute, and at the present time it is no longer

possible to speak of a rural exodus. On the other hand the large towns and industrial centres yearly show larger losses from migration, although these are still relatively insignificant. There is slowly setting in a strong counter current to the rural exodus of the past decades. Land settlement thus stands for the combatting of unemployment and the raising of the population capacity of the relatively thinly settled regions and thus of the stable population, with an increase in the production of agricultural products in respect of which Germany is still an importing country.

*The Land Settlement Act of the Reich dated 11 August 1919.* — This Act forms the basis of the whole of German land settlement legislation. The purpose of this law which has been extended and modified by other laws was the establishment of new settlements (*Neusiedlung*) and the enlargement of existing small farms so as to make them capable of providing maintenance for the family (*Anliegersiedlung*). It is confined however to the establishment of the general lines to be pursued in securing land and of the organisation of the land settlement, while leaving the execution of the legislative provisions to the separate States.

The actual work of land settlement was placed in the hands of land settlement undertakings of public utility, and the States were obliged to form such bodies if not already in existence. It was left to the authorities of each State to establish the conditions under which the public interest might be safeguarded in such cases. The provincial land settlement associations of Prussia were taken as models. These organisations date back to 1906 and take the form of limited liability companies in which the greater number of shares is held by the State, the Province and other public bodies. Several States have made their own public authorities responsible for the carrying out of the settlement work. In Prussia the State Settlement Boards (*Kulturämter*) also function as land settlement public utility undertakings. These Boards do not however themselves undertake the work of settlement, but depute it to an individual, a company, co-operative society, commune or group of communes, provided any of these possess the qualifications necessary and are prepared to place themselves under the supervision of the *Kulturämter*.

The Land Settlement Act of the Reich makes provision for the supply of land required for the purpose in four different ways — apart from that of purchase on the open market :—

(1) State lands may be made available at the value of their returns on the expiry of the leases, provided that their retention as State property is not essential for purposes of instruction, experiment, or other purposes of public or economic utility ;

(2) marshy or waste lands may be expropriated at the value of their returns, unless the owner undertakes to transform, within a period to be fixed, into cultivable land an area corresponding to his economic position ;

(3) the right of preemption may be exercised by the public utility land settlement undertaking on agricultural land of more than 25 ha. situated in its territory, or on any portion of such lands ;



(4) property of more than 100 hectares may be expropriated in certain regions.

In the land settlement district (a whole province being usually constituted as such a district), if more than ten per cent. of the area of agricultural land as ascertained by the farm census of 1907 is absorbed by farms of 100 ha. or over, the owners of these large farms are to be grouped into Land Supply Unions (*Landlieferungsverbände*). On the request of the public utility land settlement undertaking these unions are expected to place at the disposal of the former suitable land taken from the large farms. For this purpose the *Landlieferungsverband* has, in place of the land settlement undertaking, the right of preemption on all the large farms of its district, and, moreover, the right of expropriation of land for settlement to be exercised on land held as large farms as against compensation payment, provided it is not possible to obtain lands in any other way for the purposes of land settlement. The obligation on a union to supply land is however fulfilled, so soon as one third of the total area of agricultural land, as established by the 1907 census, has been made available for land settlement purposes, or when the area of agricultural land of these farms has fallen to 10 per cent. of the whole cultivable area of the land settlement district.

The power of the settler in respect to disposal of his holding of land was limited, the object of this restriction being threefold: to prevent speculation with land settlements formed with the help of public funds, to prevent the passing of such land into the possession of unsuitable persons, and to check subdivision. The Reich Land Settlement Act accordingly confers on the land settlement undertaking the power of repurchase on conditions to be stated in the contract, applicable in the case of the settler alienating the whole or part of his holding or of his not living permanently on the land or not farming. In the case of inheritance or succession, the retention of the land settlement holding in a single hand is guaranteed by the appropriate entry in the land register.

Finally the terms of the law enable permanent farm workers to obtain lands on a tenancy basis.

*Financing of Rural Land Settlement.* — Rural land settlement in Germany is financed at present virtually on the lines established in Prussia before the war. A distinction however exists between the credits made available either by the States or the Reich for general development of land settlement work, such as, purchase and assignment of the parcels of land, improvements, building, etc., and on the other hand the subsequent replacement of these by long term credits intended to enable the settlers to purchase their holdings.

The former type, or land settlement intermediate credits, are granted for a period of from two to three years per holding and at the end of that time are made available for another holding in each case. Up to the end of 1930 Prussia had made available in this way nearly 76 million RM. and the Reich 210 millions without counting the intermediate credits granted by the Reich for settlements on lands previously not cultivated and for special branches of land settlement. With a view to joint administration and in order to secure uniformity in regard to the

granting of these credits there was founded in September 1930, by the joint initiative of Prussia and the *Reich*, the *Deutsche Siedlungsbank* as an institution of public utility and of official standing with a foundation capital of 50 million RM. and a reserve fund of 50 millions.

As a settler is scarcely ever in the position to pay for a holding out of his own resources, and as on the other hand the land settlement undertaking must repay the intermediate credits, these credits have to be replaced by long term credits, an operation at the present time effected through the *Preussische Landesrentenbank*. This institution was founded by the law of 29 December 1927 by the amalgamation of the institutions which were formerly responsible for the provision of land settlement long term credit, viz., the *Preussische Provinzialrentenbanken*. On the application of the State Settlement Boards (*Landeskulturrämler*) the *Landesrentenbank* redeems the purchase amortisation sum (*Kaufrente*) agreed between the would be purchaser of the holding and the land settlement undertaking, taking over the rent charges in exchange for their own annuity bonds which are subsequently sold on the Stock Exchange on the account of the land settlement undertaking. Since these bonds are secured by a first mortgage on the holding as well as by the State guarantee, a mortgage loan up to 90 per cent. of the value of the farm can be obtained. With a yearly payment of five per cent. covering interest and amortisation, the loan is discharged in  $69\frac{2}{3}$  years.

The powers and functions of the *Preussische Landesrentenbank* have been extended by the law of 31 July 1931. Whereas the Bank heretofore had no foundation capital, in future it will possess a capital and a reserve fund of 20 millions RM. each, paid half by Prussia and half by the *Deutsche Siedlungsbank*. The Bank is now empowered to issue annuity bonds covered by the annual payments of the *Landesrentenbank*, or mortgage bonds covered by mortgages. It may also take up loans, and take part in operations for obtaining land settlement credits. In addition, in virtue of the agreement made between Prussia and the *Reich*, institutions for land credit may in future be called upon to finance land settlement. As the terms of constitution of these institutions impose very narrow limits for the extent of their mortgage loans, they are empowered by means of the guarantee of the *Reich* to exceed these limits. The yearly interest on any higher sum being reduced by a *Reich* subsidy up to five per cent., so that for all land settlement holdings the annual instalment for interest and amortisation is the same.

In order to reduce the high costs of building, loans of from 4 to 6 thousand RM. are made by the *Reich* and by Prussia to every settlement holding, at an interest of only one per cent. amortisable after the sixth year at a rate of one per cent.

For adjustment of questions relating to communes, schools or churches, etc., a contribution up to 50 per cent. of the resulting expenditure is made by Prussia. The funds for these purposes allocated in the budget of the agricultural administration amounted in 1930 to 4.5 million, and in 1931 to 7.7 million RM.

In order to assist the settler at the beginning of his enterprise, the payment of interest charges is remitted over a period of up to two years, either wholly or partially according to the settlement district.

*Farmworkers and Land Settlement.* — With the expansion of land settlement activity in the course of the last few years, an increasing importance has attached to the question of what is to become of the farm workers formerly employed on the large estates which are now purchased for subdivision.

So long as the scope of the operations remained limited, no great difficulty arose. The labour was absorbed on the neighbouring farms, or the workers were established on small settlement holdings with opportunities of obtaining job work, etc. In some cases they emigrated. To reduce the inevitable hardships of the interim period, a supplementary clause was inserted in the *Reich* Land Settlement Act under which, in the case of farm workers or employees, who in consequence of the subdivision of an estate were temporarily or for a prolonged period thrown out of work, the land settlement authority was expected to provide at least three fourths of the wages they would have earned as an allowance for a period up to six months.

With the extension of the land settlement work and the more acute form assumed by the economic crisis, the provision thus made has become insufficient. The numbers who had been thrown out of work by the land settlement operations could no longer find work on the neighbouring farms, as even if these also were not undergoing subdivision, reduction of farm labour was going on in consequence of mechanisation, rationalisation and under the pressure of the crisis. As in other branches of industry so in agriculture the unemployment figures continued to swell running to some hundreds of thousands. With the increase in land settlement the problem of the farm workers could be no longer solved by their establishment on small holdings, on the contrary it became clear that, as there was very little to be earned by subsidiary occupations, the holdings previously assigned to the displaced farm workers were much too small. Hence there was an increasing tendency to settle the workers on larger holdings. It is indisputable that many of these farm workers possess all the best qualifications of good settlers. Their claim to preferential treatment in regard to land settlement was especially stressed in the Law of the Reich for promotion of agricultural settlement of 31 March 1931, and later in the regulations laid down by Prussia and by the *Reich* dated 10 November 1931 for agricultural settlement. At the same time it was decided to encourage the settlement of farm workers on small and independent family holdings by means of special credits and grants.

*Results so far Achieved of Post-war Settlement Operations.* — From the passing of the Land Settlement Act of the *Reich* in 1919 up to the end of 1930 the total area acquired or made available for the purposes of settlement was in all 750,000 hectares. This represents not quite 10 per cent. of the agricultural land of farms of 100 and over 100 hectares, which according to the farm census of 1925 amounted in Germany to 7,700,000 hectares. The area acquired or made available each year has increased from year to year, rising from 31,000 ha. in 1925 to 127,000 in 1930.

From 1919 to 1931 there were formed 49,000 new settlements as shown in Table II. Thus the original programme of 10,000 new settlements per year has been very far from fulfilled, but very decided progress has been made in the

TABLE II — Results of Agricultural Settlement in Germany in the years 1919 to 1931

STATES AND PARTS OF STATES	NEW SETTLEMENTS						SETTLEMENT BY MEANS OF TAKING IN OF ADDITIONAL LAND IN OWNERSHIP (Anliegersiedlungen)					
	1931 1)		1930		1919 to 1931 1)		1931 1)		1930		1919 to 1931 1)	
	Number	Area ha	Number	Area ha	Number	Area ha	Number	Area ha	Number	Area ha	Number	Area ha
East Prussia . . . . .	2,256	23,941	2,165	23,723	10,056	116,757	1,520	6,160	1,663	7,130	6,188	20,314
Brandenburg (3) . . . . .	1,102	10,771	804	5,005	6,496	50,608	446	1,162	255	582	3,243	5,778
Pomerania . . . . .	1,683	20,184	1,116	15,774	5,501	93,109	1,014	2,796	652	1,722	4,125	10,118
Grenzmark Posen West Prussia . . . . .	153	1,924	194	2,200	1,145	20,516	166	663	55	156	441	1,307
Lower Silesia . . . . .	877	6,799	559	4,206	4,326	35,578	2,970	5,173	1,206	1,863	22,553	31,009
Upper Silesia . . . . .	387	3,361	337	2,617	2,151	17,028	1,923	2,202	883	1,116	12,425	12,020
Saxony . . . . .	223	2,424	147	907	2,291	10,731	641	1,006	110	65	5,747	6,410
Schleswig-Holstein . . . . .	671	8,203	1,224	15,719	5,071	66,970	43	171	28	65	824	2,755
Hanover . . . . .	302	3,338	365	3,412	2,834	23,313	329	561	110	269	1,699	3,304
Westphalia . . . . .	164	505	192	815	931	3,649	120	141	29	27	925	987
Hesse-Nassau . . . . .	—	—	2	15	378	1,559	452	295	481	220	7,014	3,270
Rhine Provinces . . . . .	36	448	41	325	206	1,547	41	71	86	98	887	626
Prussia . . . . .	7,914	81,928	7,147	74,932	41,658	441,271 2)	9,677 2)	20,374	5,567	13,413 2)	66,861 2)	97,958
Bavaria . . . . .	182	1,813	4	23	1,413	4,132	485	487	361	318	8,573	7,657
Saxony . . . . .	2	46	8	160	50	1,038	83	86	277	224	1,250	687
Thuringia . . . . .	5	84	3	111	194	1,371	162	196	183	268	1,819	1,941
Hesse . . . . .	—	—	1	5	1	5	124	30	385	135	1,374	467
Mecklenburg-Schwerin . . . . .	768	10,556	673	9,130	3,150	40,801	162	374	401	1,015	2,634	7,001
Oldenburg . . . . .	73	501	140	1,092	1,105	8,512	238	399	167	417	2,514	4,616
Brunswick . . . . .	—	—	—	—	21	180	—	—	—	—	355	603
Anhalt . . . . .	—	—	—	—	10	98	—	—	7	8	36	68
Lubeck . . . . .	—	—	—	—	145	29	—	—	—	—	25	17
Mecklenburg-Strelitz . . . . .	99	2,034	25	498	353	5,708	—	—	—	—	247	370
Other States . . . . .	3	1	7	2	833	430	—	—	30	64	159	274
Reich totals . . . . .	9,046	96,903	8,008	85,953	48,942	503,643	10,931	21,946	7,378	15,862	85,847	121,659

1) Preliminary figures — 2) Including some 900 farm extensions rented. 3) Including Berlin. *Wirtschaft u. Statistik*, 1932, No. 8 Berlin, R. Hobbung

technique of land settlement operations and much light has been thrown on the problems connected with the subject. Not one of the least important results has been the formation of an expert staff which is the best guarantee for the success of land settlement activity in the years to come when it is expected that for the reasons already indicated there will be a very considerable extension of the operations. There is already a significant increase in land settlement activity over the past new years, the number of new settlements formed in 1931 being 9,046, as compared with 8,008 in 1930, 5,545 in 1929, 3,372 in 1927 and 1,725 in 1925.

The success of the settlement work depends largely on the right choice as regards size of farm and diversity of farming operations. In any individual case, and in any given conditions of transport, marketing and climate, the extent of land that will secure a proper maintenance to the settler - apart from farms on which a subsidiary occupation is essential to subsistence - must depend primarily on the direction given to the farming and on the nature of the soil. For a number of reasons it is not desirable to establish a rigid scheme in respect to the size of farms. It is now practically unanimously agreed that in the first years of the post-war settlement the number of small holdings formed was excessive. The investigations of the agricultural sub-committee of the Committee of Enquiry of the *Reich* (1) established this same fact, *viz.*, that the small size of settlement holdings was the principal reason for the frequent change in ownership noted by the Committee. In particular the newly formed holdings for the farmworkers were in many cases too small. In the last few years a noticeable change has come about in the size categories adopted. As will be seen from Table III, the proportion of small holdings under two hectares is steadily decreasing. In cases where the soil is poor, or is so heavy that it cannot be worked by a single team, it appears advisable in assigning land, and it is becoming increasingly the practice, to exceed the 15 hectare limit usually regarded as sufficient to provide for the needs of a family.

Settlement by taking in additional land (*Anliegersiedlung*) has also received fresh impetus during the last few years. Lands thus assigned for enlargement of existing holdings may either be owned or rented with or without right of purchase. In the first post war years a large number of such additional plots for the most part of very small extent were assigned as tenancies, at the present time on the other hand this method of enlargement is not often adopted, and the additional plots are almost always assigned in ownership.

In the Land Settlement Law of the *Reich* provision was also made for assigning lands in tenancy to farm workers. This method has never been at all generally adopted and will in future be applied only in special cases.

The figures relating to the extension of land settlement activities naturally do not in themselves prove anything as regards the success of the schemes. The success or otherwise must be judged by the extent to which the ends proposed have been attained.

(1) Ausschuss zur Untersuchung der Erzeugungs- und Absatzbedingungen der deutschen Wirtschaft, Das ländliche Siedlungswesen nach dem Kriege. Berlin, 1930. E. S. Mittler und Sohn.

TABLE III. — *New Settlements according to Size Categories (1).*

	Total number of New settlements	With total area of hectares					
		under two		two to ten		ten and over	
		Number	%	Number	%	Number	%
1919-1926 . . . . .	18,718	9 183	49.1	3,191	17 0	6,344	33 9
1927 . . . . .	3,372	1,303	40 4	633	18 8	1,376	40 8
1928 . . . . .	4,253	1,349	31 7	867	20 4	2,037	47 9
1929 . . . . .	5 545	1,591	28 7	1,241	22 4	2,713	48 9
1930 . . . . .	2) 7,441	1,648	22 1	2,164	29 1	3,629	48 8
1931 (1) . . . . .	9,046	1,352	15 0	2,952	32 6	4,742	52 4
(1) Total . . .	48,375	16,486	34 1	11,048	22 8	20,841	43 1

(1) Preliminary figures. — (2) Not including 567 holdings with total area of 6,120 hectares — in regard to which no information as to size category was supplied — transformed in the course of settlement from tenancies into owned property of the former tenants.

No proof is required of the fact that, as a result of land settlement work, the social structure of the districts in which there was a predominance of large farming has been completely transformed. It may further be stated as universally true that since the subdivision of the large estates the farming methods have become more intensive. It is also indisputable that land settlement has brought about an increase in the rural population and has revived the whole industrial and economic life of the region. But these favourable results can only achieve permanence and extension if economically sound possibilities of existence have really been created. At the present time the outlook of settlement farms is by no means satisfactory. It is not to be wondered at, if many of these farms, heavily burdened as they are, find themselves in difficulties, seeing that so many of the original family farms cannot find a maintenance in the present economic situation. These difficulties, however date only from the aggravation of the crisis during the last two years. Up to then the position of the settlers was on the whole regarded as comparatively satisfactory, the settlement farms showed considerable powers of resistance to the crisis, and the percentage of instalment payments in default remained small. If to-day these payments fixed under former conditions have become in many cases altogether too heavy a charge, this is not to be considered as reflecting on the land settlement schemes. The charges were established when the general situation was quite different, and when such an aggravation could in no way have been anticipated. An endeavour has been made to adjust demands to the present difficult position of the settlers, by remitting 50 per cent. of these payments for the financial year 1931-32.

The causes to which is due the excessive burdening of the settlements formed up to the present time are: the payment of too high prices for the land, the additional heavy expenditure incurred by the undertaking that the large estates purchased should continue under cultivation up to the completion of the subdivision, and finally the erection of large and often costly buildings. Recently it has proved possible to make economies under all these heads of expenditure. Prices of land have everywhere fallen considerably. As regards farming during the period between purchase and final assignment (*Zwischenbewirtschaftung*), and as regards erection of buildings, there has been a gradual transition to a more extensive system of settlement. Under the former system the holdings were offered to applicants in a state of complete readiness for farming and with adequate and even sometimes very spacious farm buildings. In future, according to the regulations agreed between the Reich and Prussia dated 10 November 1931 in respect of the execution of agricultural settlement, the settlers will so far as possible be grouped from the first assignment of land, and will be set to work at once on the preliminaries of settlement. The existing buildings are to be as far as possible utilised, and the number of new buildings will be strictly limited. The further development of the settlement will remain the business of the settlers. Settlement will thus be carried out more cheaply and a larger number of persons will benefit. The resulting differences in comparative costs and in charges, partly also due to the fall in purchase prices, building costs, etc. appear from the following figures, which are taken from a communication made by the Minister of Agriculture of Prussia at a reception of journalists (1).

The yearly average costs of a 15 hectare settlement holding are shown to be as follows:—

	Land	Buildings	Total costs	Paid on account	Mortgage on house rent tax	Rem under of the purchase price
1928 . . . . .	21,000	19,000	40,000	5,000	5,000	30,000
1932 . . . . .	12,000	7,900	19,900	2,000	3,000	14,900

The average charges burdening the two farm holdings were as follows —

	1928	1932
Mortgage on house rent tax . . . . .	5,000 at 1 % = 50 RM.	3,000 at 1 % = 30 RM
Remainder of purchase price . . . . .	30,000 at 5 % = 1,500 »	14,900 at 5 % = 775 »
Total . . . . .	<u>1,550 RM.</u>	<u>805 RM.</u>
	or per ha. 103.33 RM.	or per ha. 53.66 RM.

(1) See: *Archiv für innere Kolonisation*, Heft 4, 1932, S. 143. Berlin, Deutsche Landbuchhandlung.

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## MARKETING OF AGRICULTURAL PRODUCE

### World Production of and World Trade in Table Grapes.

#### I. — THE PRODUCTION OF TABLE GRAPES.

##### (a) *Consumption of fresh grapes in the past (up to 1850).*

The fruit of the vine, the grape, normally enters into human consumption under three forms: as fresh fruit, dried fruit (raisins, sultanas, currants, raisins in clusters for table use), and as pressed juice (wine and unfermented grape juice). There are in addition other methods of using grapes, but of secondary importance in the total production, for example, their utilisation for the manufacture of wine jellies, confectionery and in similar ways. Transformation of fresh grapes into one or another of these products is usually carried on in close proximity to the vineyards — apart from the conditions existing in the United States in consequence of the prohibition measures which run counter to any normal development. Grapes transported over long distances are usually those intended for direct consumption, or table grapes as usually known. From the commercial standpoint, table grapes belong to the class of fruits known in English parlance as «soft fruits», the term also including pears, plums, cherries, apricots and peaches, as distinguished from other kinds, as for instance apples, citrus fruits, etc. by their greater tendency to spoil.

Wherever wine-making is carried on grapes are also consumed in the fresh state. It was however only in the latter half of last century that there began



to be for table grapes, as for other fresh fruit, a production in excess of local requirements. Up to that time any extensive production of grapes in historic times had been exclusively for the purposes of wine-making or the dried fruit product. It was for wine making purposes that in pre-Homeric times the cultivation of the vine had been already transported from the interior of Asia to the eastern littoral of the Mediterranean basin. In the succeeding centuries this cultivation was extended to the other Mediterranean countries and to the neighbouring regions. Owing to the ease with which wine could be transported in wooden casks or in skins there was already in the earliest historic times an extensive international trade in wine. Later the monastic orders in the course of their missionary and colonising labours became pioneers of the cultivation of the vine also in the remote and undeveloped Northern regions, such as Northern France, the southern countries of England, Thuringia and Brandenburg. In these countries vine-growing only lost its importance when it became possible to obtain a regular supply of wine from the warmer countries.

While the extension of Christianity tended to further that of vine-growing, the rise of the religion of Islam had the opposite effect. The followers of the Prophet are forbidden the use of alcoholic beverages, and the result of this was a decay of vine-growing in all the regions that came under the influence of Islam. These included many countries that had been renowned in antiquity for their wines. Although, however, in Western Asia, North Africa, Greece, Sicily and Spain there was a shrinkage in the area under cultivation for wine, the cultivation of the vine plant did not entirely disappear. In nearly all these regions a part of the population had preserved their former faith, and these were permitted by their Mahometan conquerors, who generally showed a certain tolerance for the traditional customs of those of another faith, to continue the cultivation of the vine and to manufacture wine. Sometimes, it is true, particularly zealous rulers, such as Hakem II in Spain, undertook destructive campaigns against the vine, but in principle Mahometan subjects were allowed to own and to plant vines. Where the manufacture of wine was forbidden, the production of dried grape fruit or raisins began to be adopted. For climatic reasons the districts most indicated for this production were those of the eastern basin of the Mediterranean in which the Islam domination was more or less permanent, and where, in consequence, the cultivation of grapes for the wine press had no such chance of revival as actually occurred in Spain when freed from the Mahometan yoke and once more Christian. The production of dried grape fruits became a decisive economic factor in some regions, *e. g.*, the islands of Southern Greece. In the XVIIth century, if not earlier, the English maintained permanent consulates in the most important centres of production in the interests of this trade, including even an island as small as Zacynthos. These areas have succeeded in maintaining their predominant position in the international trade in dried grape fruits, although this position is not so strong as it was previously.

As in the wine-growing districts of the Mediterranean and neighbouring regions, so in the overseas countries the production of grapes for consumption as fresh fruit was of little commercial importance up to the last half of last century.

Speaking generally, in the greater part of the more important extra-European regions of production, the cultivation of the vine had up to that time no special importance. In North America, it is true the first immigrants often found on the Atlantic coast wild vines growing luxuriantly which were not however under regular cultivation. In South Africa and in Australia the vine only reached these countries with the European immigrations at the beginning of the 17th or at the end of the 18th century respectively. As had happened in Europe, so in the overseas countries, missionary societies made it their business to introduce the vine in areas where it had not been previously known. In particular the great vineyards planted by the Jesuits in Southern California at the end of the 18th century became the starting point of an immense production, and it is to this fact that California owes in our own days the dominating place in the production of grapes in the United States of America. In the zones of vine cultivation not so far mentioned, Central Asia and the Far East, especially in the province of Shantung and in the more distant territory of Shanghai, to judge from the present position of growing of table grapes and from the excellent quality of the fruit — it would seem probable that in earlier times large quantities of table grapes were already brought to the market.

Grapes consumed as fresh fruit in wine-growing regions have never formed more than a small part of the crop. The period of the vintage only lasts approximately two or three months and in addition the grapes, once cut, do not keep in ordinary temperatures more than a few days, especially in the warmer producing regions where no special means of conservation are in use, such as packing in cork sawdust. Such methods were known comparatively early, but were not systematically employed, since for the purpose of the personal requirements of the grower they were scarcely worth the trouble. While agriculture proper was predominant, the absorption power for grapes of the markets in the immediate vicinity of the vine growing regions remained undeveloped, and owing to the tendency of the product to rapid spoiling trade at a distance could not develop. Hence the economic conditions for production of table grapes were absent. Up to the middle of last century the distinction between wine grapes and table grapes did not exist in the wine growing regions proper.

On the other hand, outside these wine growing regions, there developed at the beginning of modern times in the regions of Northern Europe less favoured by the climate, that is to say, in Northern France, in Holland, Southern and Central England, and later also in Russia, a horticultural production of table grapes which was characterised by selection of varieties and by special methods of cultivation. The great economic prosperity of these countries in that epoch gave rise to a demand among the wealthy for the costly products of the vine grown as espalier vines or in hothouses. Espalier methods were predominant in Central and Northern France and in Southern Holland, and hothouse cultivation in the South of England and in Central Germany. Hothouses were the natural adjuncts of the estates of the wealthy classes. The hothouses of Fontainebleau, Versailles and Sanssouci were among the best known. Usually this cultivation was not a commercial enterprise and the grapes obtained did not come upon the market, and were exclusively consumed in the fresh state. In pictures by Dutch artists of

*the XVIIth and XVIIIth centuries specimens of these choice grapes often appeared as adorning the tables of persons of quality. The demand for wine was much better met by bringing in wines from the southern countries. From the point of view of quantity the production of espalier or of hothouse vines was quite insignificant. It may thus be affirmed that up to the middle of last century the production of table grapes was merely subsidiary to that of wine grapes or dried vine fruits.*

*(b) Modern Development of the Production of Table Grapes.*

As railway and steamboat transport took the place of the older methods, a decisive change came about also in the domain of production of and trade in table grapes. It was about 1850 that the first table grapes appeared on the international market and since that time this product has become a regular factor. Even with the new possibilities of consignment, however, it is only at certain relatively few points of the immense vine-growing area, which extends over a great number of countries situated in the temperate and sub-tropical zones of all the continents, that it has proved possible to develop a production of table grapes of any considerable volume. Such production is dependent primarily on climatic conditions, a fact which practically rules out, as regards commercial cultivation of table grapes in the open, these regions that are situated along the northern limit of vine cultivation. It is true that there are some exceptions such as the extensive open-air cultivation of table grapes in the Channel Islands. In general however in the northern regions, the southern limit of which coincides in Europe very nearly with the chain of the Alps, the frequent late frosts make it possible to grow only varieties which make their shoots late. The grapes forming on these vines in consequence do not develop, except in years when there is much bright sunshine, the degree of sugar required for consumption as fresh fruit. Even in meteorological conditions favourable to growth the frequent heavy rainfall during the vintage season often render impossible, owing to the thinness of the grape-skins, the marketing of the bunches for direct consumption. Gathered during rain the fruit is unattractive in appearance, spoils extremely quickly and in consequence cannot be packed for market. Even when the grapes are well grown and have been cut in dry weather, in size of berry and of cluster they cannot compete with the superior kinds that come from the South. Accordingly in the regions in question, which include nearly the whole of the areas under vine cultivation in Germany and Austria, as well as large areas in France, Czechoslovakia and Hungary, the unfavourable conditions for production have resulted in a concentration on the growing of wine grapes, and this is done the more purposefully because the vines of those regions yield fine wines of first quality which command high prices. The consequence is that these regions, in spite of the extensive areas under vines and the progressive nature of the methods employed, import large quantities of table grapes, and form, together with the more northerly countries, the main importing territories for this product.

The further south are the vine-growing regions, the more favourable are the climatic conditions for the cultivation of table grapes. The sugar content

of the berries increases, the berries themselves become larger, the clusters longer; the weather during the harvesting period is more assured. The southern border of the vine growing zone is marked out for the cultivation of table grapes. During the bright sunshine of the long summers the berries acquire a high sugar content, attaining a large size while the skins thicken. In these latitudes heavy rainfall is rare during the harvesting period, and even if it does occur the grapes are protected by their thickness of skin. It is true that with much rain the stems tend to soften and wrinkle up if the fruit is kept long in storage, but the quality of the grape is not impaired. The bunches can be packed in excellent condition, and owing to the thickness of the skin can stand long distance transport. In many cases, as in that of Spanish Almeria grapes or Crimean varieties, given the proper technical installations, storage may be continued from three to five months. These grapes are naturally preferred on the markets, and command high prices especially when they are offered for sale outside the regular season. Speaking generally, the production of table grapes has become much more profitable than that of wine grapes in the vine-growing regions with a favourable climate.

The first attempts at transition from cultivation of wine grapes to that of table grapes, a transition which later led to the formation of areas exclusively devoted to the growing of table grapes, were made in the South of Europe, near the southern border of the vine-growing belt, the reason being that the transport to consumption areas would not involve much time. The starting point of the international trade in table grapes thus became the Spanish province of Almeria in the south-east of the Peninsula, one of the most southerly regions of Europe. From that time onwards Almeria occupies a decisive position in the trade in table grapes. With the growing economic importance of the export of table grapes the type of grape produced has changed in several respects. The kinds of grapes grown are increasingly selected in view of their suitability for sale as fresh fruit, and special importance is attached to firmness of skin and to looser clustering. This latter is important for marketing purposes, as the ordinary wine grape kinds with the berries closely packed together cannot easily be eaten except by chopping up the bunches. Almeria grapes are undoubtedly some of the finest outdoor table grapes in the world, and for that reason have been imported into other regions where it is desired to plant vineyards for production of table grapes. In Italy also the best table grapes are grown in the South. Sicilian grapes are mainly sold as luxury products.

Apart from choice of varieties, a transformation in technical production methods occurs in regions where table grapes are grown, and although remaining the same in principle these methods are now adapted to the new end in view. Taken as a whole the growing of table grapes is the most intensive form of vine growing. Usually the vineyards are more heavily manured, and greater care is given to the plants. In Spain and in South Africa, for example, if grown for wine, the vines are kept quite low and short, whereas the table grape vines of Almeria are trained on wire trellis-work to the height of two to two and a half metres. Great attention is devoted to the pruning of the stocks and to the training of the shoots, as on the right treatment in these respects depend in great measure the uniformity,

the time for ripening, as well as the quality and resistance of the clusters. In some districts special measures are employed, such as artificial pollination, ring-barking (or removal of a narrow ring of bark below the lowest bunch), and thinning of berries. Artificial pollination is requisite for kinds such as Almeria, Frankenthaler, Razaki rosso, Bamburger, muscat and others, as otherwise there is a tendency to uneven ripening or even imperfect setting of the fruit. Ring-barking is practised with a view to securing a better crop of fruit as well as early ripening. This treatment however undoubtedly often results in too rapid a ripening tending to lower the sugar content and diminish the keeping powers as compared with the normal ripening process. In spite of these drawbacks, the process is frequently employed in the Spanish vine-growing districts, the object being to be able to place on the market an early supply of the late ripening kinds. Thinning is indispensable for obtaining sound uniform bunches of good appearance for the export trade. The amount of thinning depends on the variety. In many localities it is the practice to thin three times, the first when the berries are one eighth of an inch in diameter. All small or poor berries are removed, and in addition some of the sound ones, so as to give the bunches that looser structure which cannot be secured by selection of varieties alone. Sometimes up to two-thirds of the berries are removed in the course of the thinning. It is essential to proceed with the greatest care, as a small injury is enough to make the grapes unmarketable. Special bluntnosed scissors are used.

The gathering of grapes for table use involves much additional labour as compared with the gathering of wine grapes. In fact the methods of harvesting are the characteristic most strikingly distinguishing the cultivation of table grapes from that of wine grapes. Whereas the latter are usually cut all at one time and are carried just as they are in great vats to the press, in the case of table grapes the vines must be visited many times so as to cut each time only those that are at the right stage of maturity. After cutting, the bunches are trimmed while still in the picker's hands, then laid separately in small boxes, taken to the different points of concentration where they are repacked in larger boxes or in casks. The greatest care must be exercised over the whole process, as even trifling damage done to single berries sets up decomposition and will often spoil the contents of whole casks. The technique of harvesting in the case of table grapes has undergone constant improvement and in California especially has been brought to a high pitch of perfection. It may be added that methods of growing vary in accordance with natural conditions and with traditional usage.

The development of the cultivation of table grapes in the southern areas of the vine-growing zone naturally depended on the possibility of convenient transport to the principal markets, such as England, Germany and the United States. Owing to backward conditions of internal transport and to their less favourable geographical position, the Balkan States and the countries of the Near East have not been able to supply grapes on the world market, and in spite of their excellent varieties of table grapes have completely neglected this branch of viticulture. Greece forms an exception having developed the production of table grapes so far as to meet the limited absorption capacity of the Egyptian market. The other Balkan countries especially Bulgaria and the production areas of Asia Minor

have only been able within quite recent times to enter into relations with the world market, and in some cases remain still out of touch. For this same reason California was for a long time unable to grow or to trade in table grapes, and it was only at the beginning of this century that this country could overcome the transport difficulties, since when it has won for itself a predominant place in the supply of table grapes to the United States.

The production of table grapes has also gained ground in the central regions of wine production, especially in Central and Northern Italy, the most northerly part of which was included before the war in Southern Austria, and also in France. The grapes grown for the table in these regions cannot however as regards quality compete with grapes grown in the South. The vine-growing of these regions occupies a middle position, not only geographically but also as regards its whole structure, between the southern region of cultivation of table grapes and the northern region of wine grapes. The greater part of the whole area under vines is used for the production of wine grapes; here and there are found plots exclusively cultivated in table grapes. As a third form may be found the combined cultivation of the two types of grapes. This combined type of cultivation is the one of most importance in this zone for the production of table grapes, and has developed mainly as a consequence of the climate. The grapes mainly grown there are of a type intermediate between the definitely wine kinds and the table kinds and can be utilised for either purpose. As table grapes they are however of mediocre quality only and for this reason, even in favourable years, they do not fetch more than moderate prices. The weather in these zones is undoubtedly more assured than in those of the northern border of the vine-growing belt, but it cannot be entirely relied upon. For these two reasons viticulture cannot well be confined to the simple production of table grapes. The technique of production is in such cases adapted to the twofold purpose pursued. The degree of intensive cultivation is generally speaking less than that employed for table grapes alone, and higher than that in use for wine grapes. In consequence the costs of production are lower than in the regions of table grape growing proper, a fact which together with the shorter transport to the markets tends to compensate, at least partly, for the lower prices obtained on account of the less good quality of the fruit.

As a general rule, one or the other form of utilisation is predominant and the organisation of the farm which is closely connected with the harvesting and marketing of the grapes acts as a check on any change. On the other hand the grower's actual decision as to the destination of his grapes depends largely on the weather at the time of harvest and on the relation between the prices of wine and those of table grapes. Naturally the price developments of a season cannot be readily forecasted precisely, so that growers often alter their plans during the course of the harvesting. Generally speaking, when the prices of wine are falling there is a noticeable increase in the consignments of table grapes, while the quantities of grapes sent to the wine press increase when the prices of table grapes are on the decline. On the other hand even when the price of wine is favourable and those of table grapes unsatisfactory, the growers may be driven by shortage of ready money to sell their grapes for consumption fresh, for the

reason that table grapes are paid for in cash immediately or very soon after the gathering, whereas wine is saleable only after months or even years. Considerations of this kind have great weight and may be held responsible for the large increase in the offers of table grapes during the last few years in the regions in question which are suffering from an acute shortage of ready money, difficulty in obtaining credit and heavy indebtedness.

With the increase in demand, the proportion between the prices of wine and the prices of table grapes, from the international standpoint, has altered in favour of the latter. The consequence has been that the area cultivated exclusively in table grapes has been extended, especially in Spain, but also in France, Italy, Algeria and the United States and that the districts where viticulture is undertaken for both purposes, as in France, Italy, Austria and Hungary, have placed increasing supplies of table grapes in the market.

In addition to this general extension of production, the growing of hothouse grapes has assumed considerable importance during the last 25 and 30 years, not so much in regard to the quantity produced as on account of the excellent quality.

Production under glass has, it is true, lost much of its importance in northern countries since the middle of last century owing to the regular supply of grapes from the southern countries at relatively low prices. If this production under glass has not entirely disappeared in consequence of this competition, as has happened with the hothouse production of citrus fruits and pineapples, and if, on the contrary, there has been a considerable revival within recent years in Belgium, the Netherlands and also in Japan, the reasons seem to be as follows. While the cultivation under glass of oranges and pineapples, in spite of extremely high growing costs, gave only very poor results from the point of view of quality and quantity, viticulture under glass yields fruit which, thanks to its excellent quality, command higher prices than the best products of the vineyard, while the quantity produced per unit of area is also satisfactory owing to the fact that economy of space can be better observed when vines rather than trees are grown. Production costs are reduced in comparison with those of growing oranges or pineapples by the fact that vine houses require little or no heating. It is an important factor that by use of special methods of cultivation and by regulation of the temperature, the main crop of hothouse grapes can be brought to maturity during the months when the supply of table grapes on the markets is small and when prices for first quality grapes are high. It must be remembered also that with a product alike so bulky and so fragile as the grape, the shorter distance from the locality of production to the principal markets makes it possible to meet competition even with high costs of production.

The development of the production of table grapes continued in the post-war years and the progress made in the last few years from 1925 onwards has been especially marked. This is due to two causes, the first being the increasing demand for table grapes despite certain interruptions, and secondly the crisis on the wine market at first limited to certain countries but from 1926-27 becoming an international phenomenon. The elimination of vineyards unfavourably situated or of low bearing capacity, as was frequently effected in the South of France and in Italy, resulted in temporary improvement only of the

situation. Hence as a recognised way out of the difficulty growers were recommended to transform their system of production in the direction of table grape growing. In almost all the viticultural areas from that time onwards a marked extension of this production is noticeable, alike in the districts which had been formerly devoted exclusively to wine grapes and in those where there had been a combination of both forms of grape growing. As the hopes of a rapid improvement in the wine crisis became fainter, the growers in these latter districts gradually changed over completely to table grape growing, more particularly in Italy, France and Hungary. It was also taken up in countries in which it had formerly had little or no importance, as in Greece, Bulgaria, Rumania and Yugoslavia among the Balkan countries, and in the Near East in Cyprus, Syria and Palestine. Finally and in spite of extremely unfavourable conditions of production the German growers have been induced by the great difficulty experienced in marketing wines to embark on the production of table grapes, although up to the present without any great success.

In the overseas vine-growing regions the same course of development may be observed as in Southern Europe. Alike in California, which before the war was the only large centre for production of table grapes, and in South Africa, Argentina and Australia, where the pre-war production did not even meet the very small demand of that time, growers have displayed great energy in turning over to table grape growing and have even begun to export to the European markets. Despite the immense distances separating these countries of the Southern Hemisphere from the principal markets, these efforts to build up an export trade have not been vain, since these grapes arrive on the European markets at a time when there is only a small supply of Belgian glasshouse grapes and when there is but little fresh fruit of any kind on the market.

In the United States production has gone on by leaps and bounds and in consequence since 1925 the prices on the market of table grapes have undergone great depression in spite of the restrictions on sales.

Similarly in Europe the offers on the market in 1930 were extraordinarily large and still more so in 1931 which was in nearly all the regions a year of grape harvests much above the average. The year 1931 accordingly marked the abrupt fall of the prices of table grapes. This movement began on the markets of the purchasing countries and extended to these of the producing countries, since perforce a large proportion of the product had to be offered for sale within the countries themselves. The losses due to this fall in prices fell most heavily on the growers of the inferior kinds as even under normal condition a large proportion of the price is absorbed by transport and marketing costs. In many cases, in France and Italy, the exporters succeeded only in covering the transport costs and the customs charges. In some of the producing regions, as in France, the result has been, in spite of the continuance of the crisis on the wine market, to reduce, at least for the time being, the greater stress laid on to the production of table grapes. A retrograde movement towards utilisation of grapes as wine grapes has set in, at least in respect of the inferior kinds, for which the marketing conditions are especially difficult, because they must be thrown upon the market within a relatively short time. The larger proportion of the grapes coming from



France, Italy, Hungary and also from the Balkans ripen during the months of August and September and must be sold immediately after the gathering. Storage is impracticable on account of thinness of the skin. If, as was the case in 1931, there is also a surplus of other fruits, and especially of peaches, the price movement cannot fail to be catastrophic. At the same time the prices of the better kinds of table grapes including the best qualities, in so far as they come on the market at the same time as the grapes grown under glass, have been involved in the price fall. The only exception is that of the Spanish grapes which have the great advantage of keeping over several months, owing to their packing in cork sawdust. In this way it is possible to wait to place them on the market until all the other kinds have been sold. This explains the fact that the German retail prices of Spanish table grapes scarcely fell at all during the winter months of 1930-31 and 1931-32 as compared with previous years.

It is impossible to forecast the future development, the world economic crisis having destroyed all bases on which a judgment could be made as regards the future. It would seem however that the continuance of the crisis in marketing of wine tends to make the growers attach more importance to the production of table grapes of high value which are really worth the trouble of packing in cork sawdust and storing over prolonged periods. Such procedure would diminish the severe depression of prices during the period of the principal supply of the markets, but on the other hand it would encourage a tendency to low prices. How far these will still permit of the sale of table grapes depends on the offers made of other kinds of fruit and generally on the purchasing power. In any case the competition in regard to table grapes appears to be increasingly in respect rather of quality than of quantity.

The development of the production of table grapes up to the present position cannot be traced in any exact statistical detail on account of the lacunae existing in the agricultural statistics of the most important producing regions. Up to the present time very few countries make any attempt at distinguishing between wine grapes and table grapes. Spain, for example, and the United States as a whole, do not yet separate these at all, and Italy has only done so since 1929. In effect serious difficulties are found in making such a distinction from the fact of the wide extension of the method of combined production. So far as it has been possible to obtain figures on the development of production they have been inserted in the tables relating to the different countries in the concluding section of this article. Supplementary data are supplied by the figures reproduced later for the development of the international trade in table grapes, although it must be remembered that a relatively large part of the production is consumed in the actual producing regions. In this respect Australia and the United States lead, the proportion of the total production consumed in the country being in either case about 90 %. In France and Spain also the greater part of the table grapes grown are consumed within the country. Even in the case of Italy which exports relatively the greater part of its production, more than half the product in recent years has remained within the borders.

The present situation of the world cultivation of table grapes may be seen from the following table in which, so as to make clear the importance of the growing

of table grapes for the different viticultural regions, the total production in grapes is also given. This table is however unfortunately incomplete. The regions of European production do not include: Portugal, Czechoslovakia, Bulgaria, Hungary, Rumania, Belgium and the Netherlands; in Africa, Algeria is omitted; and the Asiatic regions do not include: Cyprus, Syria, Palestine, India, Persia and the Far East. The following areas in the American continent are also omitted: the Eastern and Central States of the United States, Argentine and Chile. In none of these countries has an enquiry been carried out as yet on the extent of the production of table grapes.

	PRODUCTION OF GRAPE'S		INCLUDING TABLE GRAPE'S	
	ha	1000 quintals	ha.	1000 quintals
France (1928) . . . . .	1,583,980	60,321	22,160	1,112
Greece (1928) . . . . .	229,362	5,132	11,930	350
Italy (1929) . . . . .	—	74,960	—	775
Spain (1929) . . . . .	—	40,935	—	appr 2,000 (1)
French Morocco and Tunisia (1929)	—	—	—	716
Union of South Africa (1925-26) .	—	—	—	139
Korea (1929) . . . . .	—	—	—	8
California (1929) approx . . . .	275,000 (1926)	16,443	63,200 (1926)	2,808
Australia (1928) . . . . .	42,967	2,448	2,912	125

(1) In default of official statistics the calculation was made on the basis of several estimates, according to which table grapes represented from four to six per cent. of the whole production of grapes.

Taken altogether, the production of table grapes of the countries shown in this table is approximately 8 million quintals. Apart from the regions of Central and Eastern Asia where the data available are so scanty as to render impossible any estimate of the volume of production, world production in table grapes may be estimated at from nine to ten million quintals. California stands first with approximately 30 per cent. of the whole; next come Spain with approximately 20 to 25 and France with 10 to 15 per cent. The production figures of Morocco and Tunisia appear to be exaggerated as there is no considerable export from these two countries. Italy represents approximately from 8 to 10, Greece 4 to 6 per cent., the remainder is accounted for by South Africa and Australia. It should be added that the production of grapes under glass, so far as it is possible to draw conclusions from the export figures of the Netherlands and Belgium, would seem to be from 150 to 200,000 quintals.

## II. — THE INTERNATIONAL TRADE IN TABLE GRAPES SINCE 1850.

### (a) *The exporting and importing districts.*

The recent development of the international trade in table grapes appears from the figures of the following table, in which with a view to ascertaining the total volume of the trade the exports and imports of the different countries are set out at ten year intervals beginning from 1901-1903. Some countries which

regularly export table grapes of their own production but also import, such as France, Belgium and the Netherlands, have been inserted on both sides of the table, and similarly those which in the course of their development have changed in this respect, such as the United States, Russia and Rumania. The re-exports of the importing countries have been deducted from the imports, when it has proved possible to ascertain these re-exports with precision. In regard to the earlier phases of the international trade in table grapes from about 1850 to 1900 the necessary statistical material is only partially available. The exports appear regularly as larger than the imports, which is easily explicable from the fact that, at that period the imports of grapes of most countries were still an inconsiderable part of their whole trade balance, whereas the exports, owing to concentration of production in quite a few countries, were relatively large and were enumerated separately on account of their importance to the exporting countries. Speaking generally the export figures when added together probably correspond to the real extent of the international trade. It is true that up to 1870 the large figures for the exports from Italy and Portugal were not available. It may perhaps be concluded from the later development that the grape exports from these two countries together before 1870 were as large as those of Spain which up to that time appears in the statistics as the only exporting country. To obtain an approach to the real facts the total figures for the period before 1870 should consequently be doubled.

*Development of the International Trade in Table Grapes during the XIXth century.*  
(in 100 quintals)

EXPORTING COUNTRIES	Average of the years				
	1851-53	1861-63	1871-73	1881-83	1891-93
France . . . . .	—	—	—	—	(1) 22
Italy . . . . .	—	—	(2) 260	(3) 824	1,728
Portugal . . . . .	—	—	(4) 25	(5) 153	100
Spain . . . . .	5	(6) 40	(7) 364	1,614	2,203
Total . .	5	40	649	2,589	4,053

(1) Average 1892-93. — (2) Average 1874-76. — (3) 1881 and 1885. — (4) 1871 and 1873. — (5) 1882. — (6) 1863. — (7) 1873.

From 1900 onwards the total figures of the imports and exports show fairly satisfactory agreement. From 1911-13 the differences amount only to small percentages. Contrary to what had occurred earlier, the import figures have been since then larger than the export figures, a discrepancy that must be due to re-exports the quantities of which it is not possible to determine.

The prosperity of the international trade in table grapes during the period of the peaceful economic development of Europe and the United States, which

*Development of the International Trade in Table Grapes in XXth century*  
(in 100 quintals)

IMPORTING COUNTRIES	Averages of the years			
	1901-03	1911-13	1927-29	1930
Belgium . . . . .	39	77	277	279
Bulgaria . . . . .	15	2	120	277
France . . . . .	101	1,158	3,727	2,213
Greece . . . . .	—	(1) 69	640	730
Italy . . . . .	2,544	2,211	2,473	4,532
Netherlands . . . . .	(2) 1	30	535	741
Austria-Hungary . . . . .	—	29	0	0
Portugal . . . . .	374	(3) 680	437	338
Rumania . . . . .	—	—	526	384
Spain . . . . .	3,752	4,626	4,793	3,852
U. S. S. R. . . . .	0	0	70	56
Hungary . . . . .	—	—	343	1,764
Algeria . . . . .	375	1,560	516	802
Union of South Africa . . . . .	—	—	220	251
Cyprus . . . . .	—	—	172	148
Palestine . . . . .	—	—	38	37
Turkey . . . . .	—	—	20	38
Argentina . . . . .	—	—	330	542
United States . . . . .	—	—	2,111	2,225
TOTAL . . .	7,201	10,442	17,348	19,209

(1) Including Crete 1911-12. — (2) 1905. — (3) Average 1909-13.

lasted from after the crisis of the years 1870 to 1880 up to the world war without serious interruption, was due to the large increase in the numbers of people who could purchase increasing quantities of foods of a kind that had not previously been regarded as essential. The population was becoming concentrated in the towns and in ever increasing numbers. The new conditions of work and life demanded suitable nourishment of a less heavy kind. In addition the effect of the extension of the export trade was that more scientific transport equipment was introduced with an improved organisation of trade, and in this way the spread between the net cost and the selling price was reduced, which resulted in an increase alike in consumption and production.

The table shows the steady growth of the international trade in table grapes and the predominant position held from the beginning by the Mediterranean countries and in particular by Spain. The very small quantity of 500 quintals exported in the years 1851-53 shows fairly clearly that, even if this export should properly be doubled in view of the Italian and Portuguese exports, regular export of table grapes did not begin till towards 1850. But up to 1860-65 the trade in table grapes taken as a whole was still of small importance. In all it was still only about 10,000 quintals. A remarkable percentage increase is to be noted

*Development of the International Trade in Table Grapes in XXth century*  
(in 100 quintals)

EXPORTING COUNTRIES	Averages of the years			
	1901-03	1911-13	1927-29	1930
Belgium . . . . .	3	5	63	56
Denmark . . . . .	9	56	101	97
Germany . . . . .	1,829	3,644	6,276	7,009
Finland . . . . .	0	0	84	78
France . . . . .	503	894	618	1,671
Great Britain . . . . .	2,831	2,671	3,911	3,386
Irish Free State . . . . .	0	0	89	77
Latvia . . . . .	0	0	4	6
Netherlands . . . . .	—	30	39	13
Norway . . . . .	—	86	153	170
Austria . . . . .	—	(1) 101	796	1,255
Poland . . . . .	—	—	150	704
Rumania . . . . .	—	(2) 158	—	—
Russia . . . . .	—	154	0	0
Sweden . . . . .	—	36	143	185
Switzerland . . . . .	197	454	970	1,287
Serbia . . . . .	178	510	0	0
Czechoslovakia . . . . .	—	—	223	311
Egypt . . . . .	—	777	1,089	1,027
Palestine . . . . .	—	—	(3) 18	32
Philippine Islands . . . . .	—	—	85	—
Argentina . . . . .	—	37	229	7
Brazil . . . . .	—	198	269	225
Canada . . . . .	48	247	1,269	1,426
Cuba . . . . .	—	—	237	—
Uruguay . . . . .	—	16	(4) 9	—
United States . . . . .	—	1,671	134	252
New Zealand . . . . .	—	—	57	41
TOTAL . . . . .	5,598	11,725	17,016	19,315

(1) Including Hungary. — (2) Average 1911-12. — (3) 1927. — (4) Average 1927-28.

during the ten succeeding years; towards 1871-73 the quantity of table grapes reaching international trade amounted to 65,000 quintals. The increase in volume in the most recent decades is even more remarkable. From 1871-73 to 1911-13 there was a rapid acceleration of this trade; in the first two decades the average was 175,000 quintals and in the two following it exceeded 300,000 quintals. For the years 1911-13 the average quantities in movement were nearly one million quintals.

Up to 1901-1903 the expansion of the exports must be ascribed exclusively to the intensification of the activity of Spain, Italy and Portugal. Since the beginning of the XXth century, the proportion of the exports from France and Algeria has constantly increased. There are certain special reasons for the late appearance of France on the market of table grapes. It is well known that

French viticulture had been seriously affected by plant diseases introduced between 1870 and 1880 to such an extent that in the following years France was obliged to import from Greece large quantities of Corinth grapes to supplement the home production of wine grapes. The reconstruction of the vineyards during those years naturally put a stop to all export of table grapes, but led eventually to a greatly increased production, when the new vine plants came into bearing. It was then that a rapid increase in the export of table grapes from France began. The further increase of exports from 1901-903 to 1911-13 was in part due to the export from other countries, with the exception of Italy the exports from which were already declining.

Up to the end of last century the larger proportion of the table grapes entering the world trade went to Great Britain. It is not however possible to make any exact statistical calculation in regard to this proportion, as in the British trade statistics comparable figures for import of table grapes appear only for certain years, so that an approximate estimate only can be made. If, for example, in the years 1891-93 Germany imported 35,000 quintals of these grapes, France 40,200 quintals. Switzerland 8,200 quintals, and if in addition the United States and some small countries took a certain proportion of the total export, which amounted to 406,400 quintals, the share of Great Britain must have been from 60 to 75 % of the international trade in table grapes. In the following ten years, 1891-93 to 1901-903, it was especially the imports directed to Great Britain which developed while those directed to France could no longer noticeably increase on account of the reconstruction as indicated of the French production of grapes. The Swiss demand is of small importance only in the total world trade, although it more than doubled during these ten years. During the years 1901-903 Great Britain absorbed 39 % of the world trade, and Germany nearly 25 %. During the previous decade the imports into Germany had thus considerably increased, and with the new century this development became even more marked. Before the war, Germany ranked first among the importing areas with an annual import of more than 260,000 quintals. During the same period, the imports directed to Great Britain showed no further increase. On the contrary a decline was already apparent from nearly 390,000 quintals to about 290,000 quintals. The British markets could clearly absorb no more grapes and preferred other tropical or subtropical fruits, more particularly bananas, the imports of which during the first decade of the XXth century rose to an extraordinary degree. On the continental markets, on the other hand, the banana did not gain ground appreciably and accordingly could not oust the table grapes. Up to this time the Spanish exporters had almost exclusively consigned their produce to England, but now that marketing of grapes in England was becoming more difficult, they were compelled to find other markets. They were especially successful in the United States, but in Europe also they effected much owing to the high quality of their wares. In this way the Italian exports suffered, and, as has been already said, entered upon a period of decline.

Prof. Dr. KURT RITTER and Dr. MARTIN GUTTFELD

(to be continued)

## CO-OPERATION

### Co-operation in Mexico.

A short article was published in No. 4 (April, 1932) of this *Bulletin* on " Agricultural Co-operative Organisation in the United States of Mexico ". In accordance with further information received from the Department of Agriculture of Mexico the following explanatory notes are added :

(a) the Law of 21 January 1931 really only modified co-operative credit by amending the law which had established the National Bank of Agricultural Credit ;

(b) the activities which may be undertaken, in accordance with the law, by the co-operative societies, are to be understood as referring to the activities of the organisations authorised under the general law on co-operative societies,

(c) the list showing the number of co-operative societies organised and their distribution over the territory of the Republic refers only to the co-operative societies formed under the Department of Agriculture and includes only a part of the whole number of societies which have been organised in virtue of the General Law on Co-operative Societies, grouped in other Federal Organisations such as the National Agrarian Commission, the Forestry Department of Hunting and Fishing, the Secretariat of Industry, Trade and Labour, and the National Bank of Agricultural Credit.

(d) at the present time, a Committee appointed by the State is enquiring into a new proposal for a General Law of Co-operative Societies intended to replace that of February 1927

M B.

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(1) Previous list June 1932. To be continued December 1932.

(2) List of abbreviations: bihebd. (biweekly); bimens. (twice monthly); bimestr. (every two months); étr. (foreign price); hebd. (weekly); i t. (home price); irr. (irregular); mens. (monthly); N. S. (new series); q. (daily); sem. (half yearly); s. (series); v. (volume); trim. (quarterly).

(3) Between brackets [/] are given translations and explanatory notes not appearing in the title of the review.

# MONTHLY BULLETIN

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## AGRICULTURAL ECONOMICS AND SOCIOLOGY

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### MARKETING OF AGRICULTURAL PRODUCE

#### World Production and World Trade in Table Grapes (*continued*).

##### (a) *Post-war Developments*

In the post-war period, the general aspect of the world trade in table grapes underwent certain changes. This trade had naturally been seriously affected by the exceptional disturbance of international trade in all commodities brought about by the world war and the subsequent catastrophic changes in the economy and currencies of the countries of Central and Eastern Europe. The difficulties of the situation could only gradually be overcome, although speaking generally the regions of production of table grapes had not directly suffered. In 1927 the total volume of the trade was 300,000 quintals more than the average of the years 1930-31. The following years witnessed a steadily increasing expansion of the trade, an expansion which, as already shown, should be considered as the result of the difficulties in the sale of wine. As illustration of the noticeable way in which the volume of trade has been increasing from year to year, the export figures for the years 1927 to 1930 may be given. Expressed in multiples of 100 quintals, the international trade in table grapes was as follows.

1927 . . . . .	13,219	1929 . . . . .	22,215
1928 . . . . .	17,110	1930 . . . . .	19,209

The distribution of the total volume of trade among the exporting countries has perceptibly altered since pre-war times. The export capacity of Algeria and Portugal is evidently on the decline. The proportion exported by France is considerably higher, so that in respect of the volume of this trade France ranks second after Spain. A remarkable characteristic of the post-war development is the appearance on the world market of a large number of new production regions; in addition to Belgium and the Netherlands, which are the only important suppliers of hothouse grapes, the countries of South-eastern Europe have assumed a new importance. A third group is formed by the overseas regions, in particular the United States of America, Argentina, South Africa and Australia. The Australian exports from 1927 to 1929 were, it is true, still so insignificant as not to appear in the Australian trade statistics. The total volume of the exports for the years 1927 to 1929 was 1,734,800 quintals, of which 1,194,600 quintals were accounted for by the countries of the Western Mediterranean and Portugal, 192,900 quintals by the countries of South-eastern Europe

and the Eastern Mediterranean (Levant) including Russia, and 266,100 quintals only by the overseas countries. International trade in grapes grown under glass included about 81,200 quintals, or about five per cent. of the whole international trade in table grapes. Nearly two thirds of the world trade was in the hands of France, Spain and Italy.

On the side of imports, a change of some considerable interest may be noted in comparison with pre-war years, inasmuch as the United States now imports table grapes only in very reduced quantities. This fact together with the marked increase in the exporting capacity of the producing regions has necessarily resulted in the opening up of new markets, and in larger deliveries to markets usually supplied. Germany is at present even more than before the war the main importing country, the total in port being approximately 700,000 quintals or some two-thirds of the volume of the world trade. This increased import is the more astonishing, as there is also a quite extraordinary rise in the importation of tropical or sub-tropical fruits (*Sudfruchten*). England, which comes next on the list of countries importing table grapes, takes 400,000 quintals. Switzerland, Austria and France follow but with much smaller imports. The other countries although numerous account only for relatively small quantities.

The value of the trade in table grapes, taken as a whole, varies, according as calculations are based on the values quoted for the exports or on those indicated for the imports. For the average of the years 1928-1930 the total value of exports comes out at about 78,732,000 RM. while the total value taken on the imports is 109,133,000 RM. Naturally such figures can only be taken as valid within limits, owing to the very summary nature of the methods employed in establishing values for the purposes of trade statistics. None the less, it has been ascertained that the aggregate value of the whole of the world trade in table grapes is about 100 million marks and this gives an approximate idea of the economic world importance of the values invested in this trade.

The international trade in table grapes is a seasonal trade, as appears from the table on page 305 of the monthly averages of sales effected during the years 1929-30.

The exports of the first half of the year are very insignificant. From January up to July inclusive approximately two per cent. of the total yearly volume of the exports come to hand. In August the exports mount rapidly and in September and October reach their highest point. In each of these two months nearly one third of the whole yearly volume was placed on the market. This rapid swelling of the exports usually results in a rapid fall in prices. In November the quantity of grapes exported is nearly the same as in August. In December there is a marked decline and the exports amount to about five per cent. of the total yearly outturn. No monthly returns are available for Bulgaria and Portugal and consequently these countries do not appear in the table. But these two countries, together with France, Greece, Italy and Hungary, export substantial quantities only during the months of August to October. Spain is the only country in the Northern hemisphere, and the only important country, which places a part of its production on the market outside the regular season. The Spanish grower has succeeded in growing, on the one

*Monthly Exports of Grapes*

(average of years 1929-1930 in 1000 quintals).

COMING FROM	January	February	March	April	May	June	July	August	September	October	November	December	TOTAL
Belgium . . . . .	3	23	2	0.5	0.3	1.5	2	3	3.5	2.5	3	5.5	29.1
France . . . . .	0.2	—	0.2	0.1	—	0.1	—	36	101	138	10	—	354.6
Greece . . . . .	—	—	—	—	—	—	1	25	35	15	0.3	0.1	76.4
Italy . . . . .	—	—	—	—	—	—	1	72	103	113	19	0.5	368.5
Netherlands. . . . .	—	—	—	—	—	0.3	2.5	11	17.5	27.5	10	1.3	70.1
Rumania (1) . . . . .	—	—	—	—	—	—	—	1	11	23	4	—	39
Spain . . . . .	0.6	—	—	—	—	—	12.7	54.7	82	124	163	59	496.
Hungary (2) . . . . .	—	—	—	—	—	—	—	34.5	34.5	28	28	—	125
South Africa . . . . .	—	4	9	8	3	—	—	—	—	—	—	—	24
	38	63	112	86	33	19	192	237.2	507.5	471	2403	66.4	1,582.7

(1) 1930.

(2) Statistics appear every three months; as the exports only begin in August and finish in November, the exports up to 30 September have been distributed over the months of August and September and the exports from October to December over the months of October and November.

hand, very early kinds which come on the market even in July, and, on the other, kinds that are only ready for consignment in November and December, and which in addition can be stored in the importing country for some months still. These grapes, which enter very considerably into the Christmas trade, command good prices even in years when prices of table grapes are very low. When, for example, in the summer of 1931 French and Italian table grapes in perfectly good condition were being offered on the Berlin retail market at 0.20 to 0.30 RM. per kilogramme, Spanish grapes fetched in December of the same year 0.80 up to 1.00 RM. Also grapes of Russian origin, not shown in the table and up to now only available in small quantities, can be stored. These come on to the market at about the same time as the Spanish grapes. Glass-house grapes are shipped all the year round. In consequence of the completely different technique of production which in the Netherlands, in contrast with Belgium, is based largely on the use of cold houses, the principal delivery seasons of Belgian and Dutch grapes are different. The Dutch grapes appear on the market almost exclusively during the months when the large supplies of grapes grown in the open are available. The period over which Spanish grapes are offered is even longer than that for the Dutch product. On the other hand the Belgian grapes are ripe in almost equal quantities over the whole year with the exception of the months of April to June. The highest point of the shipments is in this case shifted to December, since the Christmas sales are of the greatest importance also for the Belgian grapes. The overseas grapes, which up to now do not play any very important part in the international trade, are exported from February to May.

#### (b) *The Structure of the International Trade*

In the beginnings of the international trade in table grapes, when transport and handling arrangements were only gradually being adapted to the requirements of the fresh fruit traffic, the market for wares of so perishable a character had to be found in the neighbourhood of the producing district. In the first instance trading sprang up between countries with easy communications. The first consignments of Spanish table grapes from Almeria - in still unimportant quantities - went to Gibraltar and Tangiers, while the first Italian consignments went to Switzerland. In the course of the development and improvement of the transport system and organisation of the fruit trade, and especially under pressure of increasing production, the marketing radius was extended and trading relations emerged even between producing and consuming areas far removed from each other. None the less, in consequence of the particular characteristics of these grapes as commodities, nearby trading remained the fundamental feature of the international trade. The following table makes this tendency clear, and shows how the export from Spain, Italy, Portugal and France, which together with Algiers were the chief suppliers of the world market before the war, was distributed among the receiving countries. A special export statement would be needed for Algiers as practically all the export thence was directed towards France.

*Development of the Export of Table Grapes (in 1000 quintals)*

EXPORTING COUNTRIES	TOTAL	Quantity directed to.				
		Germany	France	Great Britain	Switzerland	United States
Spain						
1856 . . . . .	1	—	0.1	0.5	—	—
1865 . . . . .	17	—	—	8	—	—
1874 . . . . .	38	—	—	25	—	4
1884 . . . . .	119	—	7	101	—	2
1894 . . . . .	197	—	10	151	—	22
1904 . . . . .	467	25	51	257	—	108
1913 . . . . .	(1) 552	53	17	277	—	137
1929 . . . . .	(2) 610	156	61	319	—	—
Portugal						
1886 . . . . .	15	—	—	13	—	—
1895 . . . . .	10	0	0	8	0	0
1905 . . . . .	(3) 64	6	0	48	0	0
1929 . . . . .	(4) 39	10	—	20	—	—
France						
1894 . . . . .	2	1	—	—	—	—
1904 . . . . .	41	28	—	—	13	0
1929 . . . . .	487	379	—	—	99	—
Italy						
1874 . . . . .	31	0	1	0	27	0
1886 . . . . .	37	27	5	—	23	—
1894 . . . . .	108	56	1	7	42	0
1904 . . . . .	293	204	2	1	81	—
1913 . . . . .	304	261	—	—	38	—
1928 . . . . .	(5) 229	171	—	—	14	—

(1) Including 11,000 quintals to Brazil. — (2) Including 46,000 quintals to Scandinavia and 20,000 quintals to Brazil. — (3) Including 10,000 quintals to Brazil — (4) Including 5,000 quintals to Brazil. — (5) Including 40,000 quintals to Austria.

Up to about 1890 the export of grapes from Spain and Portugal was exclusively directed to Great Britain where a demand for fresh fruit had appeared earlier than in other countries and which showed an absorption capacity which increased year by year. Later, after 1890, a considerable proportion of the Spanish exports were diverted and consigned to the United States, where there was at first an important market, especially in the Eastern States, owing to the rapid growth of the town population while the home production of fresh fruit was still only in initial stages. For this same reason, in spite of the development of the growing of table grapes in the United States, increasing quantities were imported up to the war. This market was the more important for the Spanish grapes, as about this time the absorption capacity of the English market had already become constant. Brazil also proved able to absorb, although to

a less extent, Spanish and Portuguese fruit. On the other hand for a long time the Italian and French exports were reserved to Germany and Switzerland, after England the largest importing countries, and England and the United States had no part in the importing of Italian grapes.

Germany became only relatively late an importer of table grapes, and later than Switzerland which in consequence of its nearness to the Italian area of production ranked as the chief importing country for Italian products. Up to 1885 Switzerland took about two thirds of the total Italian export while Germany imported only inconsiderable quantities of table grapes. About 1890 this proportion underwent a change. Germany rapidly assumed the chief place among the countries importing Italian grapes, and although in Switzerland larger quantities could be marketed, these, in consequence of the increasing export activity of Italy, represented only 20 to 30 per cent. of the total export of that country.

About the turn of the century the competition with Italy of the French table grapes export became increasingly each year more noticeable. These grapes went to countries in which previously the predominance of the Italian product had been undisputed. There was no serious difficulty in effecting this invasion of the markets previously mainly supplied from Italy, as the French zones of production are much more favourably situated than the Italian for these markets, while as regards quality the French grapes belong to the same classification group. Hence the French grapes were introduced without difficulty into the wholesale trade and to the public. Since about 1904 accordingly the Italian imports on the Swiss market showed an absolute and marked decline. On the other hand the German market could, in addition to larger imports from Italy, purchase rapidly increasing quantities of French grapes.

The exports became increasingly concentrated on Germany. Owing to its particularly favourable position in respect of the majority of the exporting countries and also to the steady growth in the urban population the absorption capacity seemed to be for the time being unlimited. Almost simultaneously with the establishment of the French table grapes trade, the Spanish grapes, with their many excellent kinds, gained entrance on the German market. The German public, which up to the turn of the century had mainly purchased the cheaper kinds of any fruit coming on the world market, from then onwards began to demand also the finer kinds of table grapes. Before the war Germany was the most important market for which there was the keenest competition. Some part of the fruit declared by the exporting countries as being for England or Germany was re-exported freely from those two countries. No deduction based on the export figures of the producing regions is in full accordance with actual facts, but it may be said that Great Britain exported in 1890 some 8 per cent., in 1900 approximately 15 per cent. and in the pre-war years from about 15 to 17 per cent. of the imports, especially to Canada, the United States, Brazil, and also smaller quantities to Norway. In the same way, some 20 per cent. of the grapes consigned to Germany were re-exported, actually to Russia, Sweden and Denmark. Notwithstanding this re-export, Germany stood, in respect of volume of imports, at the head of the importing countries. On the other hand in respect of

quality the German import continued to be inferior to that of Great Britain, so that in spite of the excess in volume, the value of the German import for 1911-13 was only about 13.5 million RM. while that of Great Britain was 15 million RM.

In spite of the new development of grape producing and exporting regions in the overseas lands, international trade in the post-war years became more than ever a matter of exchange of products within the continent of Europe. The trading from Europe to America which had consisted in the consignments made, through England, to the United States and Canada, was almost suspended. In the United States attention is now being given to the cultivation of table grapes, deliveries are made to Canada and there is even an attempt to extend the trade in United States grapes to Europe. In this way the relations between Europe and America begin to assume a direction contrary to that previously followed. For the present the export from the United States goes exclusively to Great Britain, which also receives grapes from the other overseas countries, South Africa, Argentina and Australia. The lands of Southern Europe look for their natural markets to Austria and Germany which are left even more than before the natural centre for imports, with the result that Germany has of all States the highest per head consumption of imported grapes. The trade relations of the Mediterranean lands to the areas supplied by them have undergone no fundamental modification.

The international trade in table grapes derives the form of organisation from that of the trade in citrus fruits, the same methods being used in the export as had proved useful in the citrus trade. The import trade is also carried by the same firms as handle the citrus fruit. Consignments arriving by steamer (in the case of Germany principally the Spanish) are distributed in the first instance to auction rooms, those imported overland are passed on to the open market by commission firms

### III — SURVEY OF COUNTRIES.

The following survey is confined to those lands which are of greater importance for international trade as producing regions or regions possessing a surplus, or else as regions of consumption. In consequence of the very dissimilar material it has not proved possible to treat different countries in the same detail. From considerations of space items regularly falling below some hundred quintals are omitted, but are naturally included in the totals. The figures for the year 1930 were not available in full at the time of closing the work of collection.

#### (a) *Exporting Countries.*

##### 1 — The Western Mediterranean Region and Portugal. SPAIN.

In respect of area under cultivation vine growing holds the third place after the cultivation of cereals and olive-growing; the value of the production is only less than that of cereals and leguminous crops. The area under table grapes is estimated at approximately 4 per cent. of the whole area under vine growing.



The main zones of table grape and wine grape growing are found in different parts of the country. Grapes for wine are cultivated on a large scale principally in the provinces of Catalonia and La Mancha in Northern and Central Spain, smaller undertakings of the kind are found in all parts. The large cultivations of table grapes, especially those of which it is intended to export the produce, are found in the Southeast of the peninsula in the province of Almeria and the neighbouring zones of Granada and Murcia. Table grapes are also grown in the district of Madrid, Badajoz, and Malaga, but in smaller quantities and in the first instance for the provisioning of Madrid and other local markets.

In Almeria table grape cultivation is predominant. Almeria is not naturally well endowed; the climate is very hot, the whole country is rocky and much fissured, the surface soil is shallow, the precipitation is low (the average being less than 200 mm), so that on the whole ten per cent only of the area comes under agricultural or horticultural cultivation. The vine stocks are planted in the valleys and on the terraced sides of the valleys, wherever there is enough earth for the plant to strike root. The natural water supply has to be frequently supplemented by artificial irrigation. All such schemes are liable to encounter serious difficulties, some idea of these difficulties being gained from the fact that irrigation water in Almeria costs nearly seven and a half times as much as drinking water in Madrid. For the production of a cask of table grapes (about 30 kg), the supply of water alone entails expenditure of more than 10 RM. The conditions of communications and transport are very primitive in the producing districts, so that the grapes, unless the vineyard happens to be situated near one of the few practicable roads, have to be conveyed on mule or ass back to the collecting centres. In spite of these far from encouraging conditions – which are among the least favourable in Spain – it has actually been possible to form in this province the centre of the table grape production, primarily because under the hot sun of Almeria the quality of the table grapes is so remarkable as to be unsurpassable by that of any other grapes grown in the open. The greatest intensity of production prevails. High yields of from 200 to 250 kg, per vine are by no means unusual. Next to the Almeria grapes, which also enter trade as Ohanez grapes, the Malaga and some types of muscat grapes are cultivated throughout Spain. A specially prized variety of Almeria grapes is the 'Uva legitima'. Almeria grapes are gathered from the beginning of September up to the third week in October.

About three quarters of the table grape production is consumed in Spain itself. In 1924 out of a production of 2,302,240 quintals approximately 510,000 quintals were exported, in 1925 out of 2,316,800 approximately 448,000 quintals. The exports have been maintained at about the same height since 1904-05, and even in the post war years there was on the whole no tendency to increase.

*Spanish Export of Table Grapes in thousand quintals*

Year 1921 . . . . .	312	Year 1926 . . . . .	262
» 1922 . . . . .	406	» 1927 . . . . .	364
» 1923 . . . . .	456	» 1928 . . . . .	464
» 1924 . . . . .	518	» 1929 . . . . .	610
» 1925 . . . . .	493	» 1930 . . . . .	385

The export trade of Spain is in the first instance determined by the absorption capacity of the English markets, which take nearly two thirds of the grapes exported from Spain. At the present time Germany stands second among the importing countries. Before the war the United States took precedence, importing nearly three times as much as the German import of that time. Since 1924 the United States no longer import Spanish grapes, the importation being completely prohibited on the ground that larvae of the Mediterranean fruit fly (*Ceratitis capitata*) had been found in the imported Spanish grapes. Accordingly markets were found instead in Norway, Sweden and Denmark, as well as in Germany.

*Export of Table Grapes from Spain in 100 quintals*

	AVFRAGE			
	1911 13	1928	1929	1930
Value in pesetas . . . . .	16,193,000	19,073,000	39,656,000	25,040,000
Total export in 100 quintals . . .	4 626	4,643	6,101	3,852
Including export to				
Denmark . . . . .	19	103	195	75
Germany . . . . .	607	1,134	1,563	749
Finland . . . . .	1	14	25	
France . . . . .	130	484	611	682
Great Britain . . . . .	2,227	2,494	3,185	1,673
Norway . . . . .	20	150	126	148
Austria . . . . .	33	—	—	—
Sweden . . . . .	4	88	131	101
North Africa. International and				
Spanish Zone (1) . . . . .	12	13	13	—
Argentina . . . . .	22	—	—	—
Brazil . . . . .	77	123	196	66
United States . . . . .	1,400	1	—	—

(1) Including Morocco.

Spanish grapes are exported in wooden casks which hold from 20 to 30 kg., of grapes. The fruit is packed in cork sawdust, or occasionally in fine wood shavings, a method which prevents bruising and at the same time ensures preservation.

#### PORTUGAL.

The production of table grapes is relatively small compared with Spain, in spite of the suitable climatic and soil conditions and the favourable position of Portugal in relation to the principal consuming countries. The reason for the smaller production may lie in the system of land tenure. Cultivation of table grapes in the full sense is practised to a limited extent only. On the

other hand the best products are selected from the early maturing and choicer kinds of wine grapes and sold as table grapes. For this purpose the Boal Dona Blanca and Formosa grapes are especially employed. It is on a very small proportion of the vineyards only that cultivation of the recognised kinds of table grapes by application of progressive methods is carried on.

Up to the time of the world war the increase in grape exports from Portugal was slow, but since then under pressure of international competition to which the Portuguese industry is subjected in respect of technique both of production and trade, the exports have declined sharply. The competition most severely felt was that of the French table grapes, which have displaced the Portuguese table grapes almost entirely on the market which was the most important for them before the war, *viz*, the Netherlands. A slight rise may be noted in the exports to Great Britain, while the exports to Germany and Brazil have declined.

*Export of Table Grapes from Portugal.*

YEAR	In 1000 escudos	TOTAL	In 100 quintals					
			including export to—					
			Denmark	Germany	Great Britain	Nether- lands	Argen- tina	Brazil
1928	3 044	331	6	80	178	11	2	50
1929	4,030	392	6	99	204	21	6	51
1930	3,379	338	2	96	183	3	1	42

#### FRANCE.

France is an important producing and exporting country in respect of table grapes, but also imports grapes for table use. Three forms of table grape cultivation may be distinguished, the out-door or field cultivation, the espalier cultivation and that carried on under glass. The first type is of the most importance in France; there is however a considerable production of espalier grapes, while glasshouse cultivation takes a subordinate place only.

The open-air field cultivation is mainly found in the South, with its favourable climatic conditions, in the departments Lot-et-Garonne, Tarn-et-Garonne, and Vaucluse, which account for nearly half of the whole area under cultivation and of the whole production. The departments of Var and Lot are also of importance. In Central France the only extensive cultivation is in the department of Yonne; owing to the cooler climatic conditions however the average yields in Central France are comparatively very low, so that the real importance of this region is less than would appear simply from the proportionate area under table grape cultivation. In Northern France it is not practicable to effect open air cultivation. The best kinds of grapes for field cultivation are found to

be the Chasselas doré, followed by Muscat, Oeillade, Alicante, and Blue Portuguese. These ripen from August to November.

Espalier growing is concentrated in the — more remote — neighbourhood of Paris; and especially in the departments of Seine and Marne. The little town of Thoméry near Fontainebleau is the centre and is celebrated for the exceptional quality of its grapes. Outside the town the grapes are trained on walls erected for the purpose, which taken all together account for a wall surface of more than 120 hectares, and for a total length of several hundred kilometres. The vines are protected against splashing rains by glass windows, which are fixed along the upper edge of the wall in penthouse fashion. This form of intensive espalier cultivation is very similar to production under glass. Even in the streets of the town, in place of the usual grass plots and front gardens, espalier vines are trained and clamber all over the houses. The principal kind grown as espalier vine is the Black Frankenthaler, the kind usually found also in the glasshouses of Belgium and the Netherlands. The grapes are placed in cool chamber storage during the autumn and appear, after the season is over, carefully graded and packed for sale in the better Parisian fruit shops.

The French yields in table grapes have shown remarkable increase in the last 20 years, probably not so much in consequence of extension of the areas under cultivation as of greater intensity in methods, etc.

	Area, under cultivation ha	Yield in 1000 quintals
1909-13 . . . . .	19,065	647
1927 . . . . .	24,200	1,078
1928 . . . . .	22,160	1,119

Approximately one third of the French production in table grapes is usually sent abroad. At the present time France exports nearly double the quantity of table grapes as in pre-war times. The main countries taking French grapes are Germany and Switzerland. The extraordinary increase in the exports to Switzerland may be noted.

*Export of Table Grapes from France.*

YEAR	In 1000 francs	In 100 quintals		
		TOTAL	including export to —	
			Germany	Switzerland
Average 1911-13 . . . . .	5,623	1,158	973	179
1928 . . . . .	105,003	4,054	3,002	1,004
1929 . . . . .	107,719	4,874	3,791	986
1930 . . . . .	54,560	2,213	1,541	619

In consequence of increased home production there was no rise in imports of grapes during post war years before 1930. The chief import is of Algerian grapes, which for the most part arrive on the French market at the time when the season for home grown grapes has not yet begun. Spanish grapes which occupy the second place in imports generally come on the market at the end of the season for French outdoor grapes. The increased importation of 1930 is to be attributed to the especially good grape harvest in Algeria. A proportion, which it is difficult exactly to determine, of the grapes imported are re-exported.

*Imports of Table Grapes into France.*

YEAR	In 1000 francs	In 100 quintals		
		TOTAL	including export from —	
			Spain	Algeria
Average 1911-13 . . . . .	3,027	804	108	78½
1928 . . . . .	11,278	877	25½	608
1929 . . . . .	24,530	896	—	—
1930 . . . . .	45,925	1,961	—	—

ITALY.

The production of grapes may be stated as from 65 to 75 million kg. By far the larger proportion is utilised for making wine. The turn over to table grape growing is still in its initial stage. Up to the present the movement is limited mainly to a tendency to sell choice assorted kinds of wine grapes as table grapes. It is only occasionally that the necessary improvements are made in the vineyards or that table grape kinds are planted specially. Consequently in the earlier Italian statistics the production of wine and table grapes was not kept apart, and it was not till 1929 that the distinction was made. In 1924 it was estimated that approximately 500,000 quintals were sold as table grapes. For 1929 according to the statistics there was a production of 775,000 quintals and for 1930 one of 842,000 quintals. Hence only about one per cent. of the whole production of grapes is used for table purposes. The importation of table grapes is very small.

The progress in table grape production within the last few years is in part due to the efforts of Signor Mussolini. The National Export Institute (*Istituto Nazionale per l'Esportazione*) has made regulations in regard to the standard to be reached by grapes for export and their packing, these regulations being intended to serve as a basis for the subsequent introduction of an Italian national mark for table grapes. The Export Institute recommends the thinning of the grapes when they have attained the size of peas: up to 75 per cent. should be removed. Stress is also laid on the necessity of consigning for export only grapes

that have ripened on the vine, as the sugar content does not increase after gathering. The grapes should not be touched by the hand during the gathering, and the greatest possible care must be taken in handling during transport to the packing sheds. Once there the grapes should be cleaned and graded according to their degree of ripeness and their appearance. Packing should never be done in more than two layers.

The great vineyards for the production of table grapes for export lie in Apulia, Emilia, Tuscany, Sicily, the Abruzzi and the Upper Adige. The kinds which come on the market as table grapes are quite distinct. The most widely diffused is the Chasselas, which is grown in particular in Sicily, Apulia, the Marches, Tuscany, and Emilia. Out of the many other kinds, the Terracina and Pizzutello table grapes may be especially mentioned on account of their quality which is much above the average. In the Upper Adige, and especially in the neighbourhood of Merano, the so-called cure grapes are grown which are regularly supplied to the sanatoria of Merano, but are also consigned to the Central European markets. On new vineyards special kinds of table grapes are being planted, in particular the Panse precoce, a very early variety, and the medium early kinds, Uva Regina, Italia and Zibibbo. Among late kinds, Razaki rosso, and the Ohanez, which come originally from Almeria, deserve special mention. The quality of the Italian grapes varies somewhat with the different technique of production and with the greatly differing climate in the various production areas, and is also affected by the actual weather at any time.

The increased production of table grapes in the last five years has had the effect of stimulating the export of the product as well as the home trade. Up to 1929 the exports of grapes from Italy had not greatly risen in comparison with the pre-war times, but in the year 1930 the export was nearly doubled.

*Export of Table Grapes from Italy.*

YEAR	In 1000 bras	In 100 quintals						
		TOTAL	including exports to —					
			Germany	Great Britain	Netherlands	Austria	Switzerland	U S S R
Average 1911-13	8,234	2,215	1,924	—	22	—	509	100
1928 . . . .	46,406	2,285	1,700	20	—	402	140	—
1929 . . . .	47,079	2,864	—	—	—	—	—	—
1930 . . . .	68,778	4,532	—	—	—	—	—	—

Up to the present time the Italian export has been almost exclusively directed towards the Central European markets which are reached by railway. So far the volume of overseas consignments is inconsiderable and the overseas trade only at an initial stage. For a long time past Germany has taken the largest proportion of the export, Switzerland coming next, but at a considerable distance. Since the war only about one fourth to one third of the pre-war

quantity can be marketed in Switzerland. This is partially balanced by the increase in the Austrian demand, as the most important area of table grape production (Merano) has been lost to Austria owing to the frontier changes.

The difficulties of the Italian table grape market cannot be wholly removed by an increased export, and in consequence efforts are made to increase home consumption. With this object a great grape festival (*Festa dell'uva*), has since 1930 been celebrated throughout Italy in connection with the vintage, renewing in some sense the ancient local October feasts (*Ottobrate*). This festival gives character to towns of all sizes lying in the vine districts. Under direction of the local and often of the municipal authorities processions are formed in which the vinedressers and many of the Fascist organisations, including the juvenile sections, take part. In addition, during the period 15 August to 15 November booths are erected in the open places of all large towns, and table grapes are on sale, mainly in standard packets of one half and one kilogramme. The retail price must not exceed 130 per cent. of the official wholesale price. By means of this large scale propaganda, very considerable impetus has been given to the marketing of table grapes in Italy. While in 1925 only about 120,000 quintals were consumed in Italy itself, in 1929 the consumption was 489,000 and in 1930, 389,000 quintals, or from 40 to 60 per cent. of the total production. Any further development must depend on the purchasing power of the Italian population.

The cultivation of table grapes is also being pushed by means of propaganda in the Italian colony of Lybia, where owing to the hot climate grapes ripen exceptionally early and can be placed on the market before the season. Good kinds of muscat grapes flourish there, but up to the present there is still very little cultivation attempted.

(to be continued) Prof. Dr. KURT RITTER and Dr. MARTIN GUTTFELD.

CORRIGENDA — In *Bulletin* No 9, September 1932:

On page 295 (table) omit "including" in heading of 3rd and 4th columns

On page 297 (table) for "importing" read "exporting".

On page 298 (table) for "exporting" read "importing".

## ECONOMIC AND SOCIAL CONDITIONS OF THE AGRICULTURAL CLASSES

### Rural Housing.

In the March number of 1930 of the *Monthly Bulletin of Agricultural Economics and Sociology* there appeared a first article on the subject of rural housing (1). After some general remarks on the importance of the subject as universally

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(1) In that article and also in the booklet. "Les habitations rurales en Europe", which formed the contribution of the Institute to the European Rural Hygiene Conference, the following countries were taken into consideration: Argentina, Austria, Belgium, Brazil, Czechoslovakia, Denmark, England and Wales, Finland, France, Germany, Irish Free State, Italy, Netherlands, New Zealand, Norway, Poland, Rumania, Spain, Sweden, Switzerland, United States of America, Uruguay.

recognised, alike from the economic and social standpoint, some particulars were given in respect of a first group of countries sufficient to give some idea of the work undertaken and of the systems adopted by Governments or by various institutions with the object of hastening the solution of the rural housing problem. It was noted that houses in rural districts are in general insufficient in number and frequently unsuitable, and that much remained to be done if the rural masses, and in particular the farm-workers, are to be ensured dwellings providing even the minimum of comfort and hygiene. The conclusion reached was that the difficulties to be overcome in regard to farm dwelling houses are numerous and of varied character, and that it was important that the Governments should intervene directly, and endeavour to do for rural building what they have done for town building. It should be recognised that valuable efforts have been made by different Governments to remedy the situation.

One sign of the urgency attached to the question is to be found in the resolutions passed in this connection at recent Congresses.

Special mention may be made of the Congress of the International Federation of Workers on the Land (Stockholm, July 1931), where it was pronounced that houses must be built without delay to meet the needs of the farming families and the requirements of hygiene. Also of the Congress of the Agricultural Syndicates of France (Lille, 6-8 November 1931), where a resolution in regard to rural housing was passed in the following terms:—

“ 1. That the Louchéur Law (1) be amended so as to reserve to farmers and agricultural workers the third part of the credits without any possible carrying over to the profit of the other occupations and placing the credits at their disposal with the fewest possible formalities, especially when it is a question of reconditioning old houses ;

“ 2. That the credit banks accept the advances necessary to the immediate application of the Law of 31 July 1929 (2) on the improvement of the rural dwelling, and that the maximum period for the expiry of the loans should be extended to forty years. ”

On the other hand, in the United States of America, at the first Presidential Conference on Housing held in Washington from 2 to 5 December 1931,

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(1) The Louchéur Law of 13 July 1928 provides for the construction or reconditioning of 260,000 dwellings, including 200,000 cheap dwellings and 60,000 dwellings at a moderate rent, within five years, and one third of the credits voted for the carrying out of this programme must be expressly reserved to the rural districts.

(2) The Law of 31 July 1929 was intended to effect improvement in the housing conditions of agricultural workers. Public administration regulations made in the 18 months following the promulgation of the Law are to determine for each agricultural region the general health conditions which must be satisfied by the housing of the farm workers ; the prescribed measures must be carried out within one year for farms of more than 100 hectares of arable and grass land, within two years for farms of from 50 to 100 hectares, within three years for those of less than 50 hectares ; the agricultural credit banks are empowered to make loans to rural owners, up to 100,000 francs as a maximum, repayable within a period of 25 years, the rate of interest being always lower by 1.50 per cent. at least than the discount rate of the Bank of France.



the Commissions of the Conference laid down certain principles, among them the following: "The advantages and the protection granted to town-dwellers should be extended as rapidly as possible to the rural districts."

A thorough examination was made of the question, more particularly from the hygienic point of view, by the European Conference of Rural Hygiene, which was held at Geneva on 29 June 1931 (1). It was here recognised that there was an urgent need of improvement in the housing conditions in the rural districts, and it was admitted that the miserable and unhygienic conditions of a large proportion of the houses in the country form one of the main causes of certain demographic phenomena, such as the higher rate of mortality in country districts as compared with the cities, the tendency for a movement of the rural population towards the urban centres, etc. The Conference discussed the rural housing problem especially from the technical point of view, and with the object of establishing all the necessary details for attaining sound and healthy buildings and for avoiding a large number of the defects which often constitute the hygienic waste of the old country dwellings including especially (2):

(a) overcrowding; there are not enough suitable houses; the number of bedrooms per house is inadequate, either because the house is too small, or because at the time of preparing the plans the existing space was not properly utilised; apart from the cubic air space necessary, it should be noted that a certain height is required in the rooms for ordinary purposes of convenience,

(b) the inadequacy of the arrangements made for sanitation, for toilet requirements, for the disposal of water used in the household;

(c) too great proximity of the cow sheds, etc., to the dwelling house,

(d) proximity of manure heaps and other sources of harmful emanations or infiltrations;

(e) damp conditions arising from the situation or the nature of the construction of the house;

(f) absence of proper ventilation, lighting or heating,

(g) inadequate protection against mosquitos, flies and dust;

(h) faulty aspect and consequent lack of sunshine.

As valuable means for improvement of rural housing are recommended: education, credit at low rates and other methods for improving the economic position of the agriculturist, voluntary association, legislation with effective enforcement of measures.

The construction of public buildings which are models from the hygienic standpoint is strongly recommended, as well as the erection of model houses as regards a number of selected points. It is considered that in this way a stimulus will be given to individual enterprise.

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(1) Prof VITTORIO PUNTONI: Discussion of Economic and Social Problems of Agriculture at the European Conference of Rural Hygiene. *Monthly Bulletin of Agricultural Economics and Sociology*, No 11, November 1931. Rome, International Institute of Agriculture

(2) See the Proceedings of the Geneva Conference

The Conference was also in agreement in regard to the following ideas and principles:

"The rural population will more readily be brought to take an interest in the healthy dwelling if the preparation of the building plans is preceded by a study of local customs and of economic and social conditions, so that full account may be taken of regional characteristics.

"Loans at a reduced rate, subsidies and fiscal exemptions may be granted by the legislature and constitute effective means of improvement of rural housing. Premiums for the construction of suitable houses give an excellent result in comparison with the amount of money so expended.

"Building codes ought to be in existence showing the minimum requirements relating to situation, aspect, lighting, ventilation, etc. The effectiveness of such codes depends on their strict application accompanied by expert methods of inspection; preparation by means of propaganda is also essential to success.

"The application of the codes should not be entirely left to the local authorities.

"The sanitary authority should have jurisdiction in all questions of a sanitary kind relating to the dwelling house.

"Preparation and distribution of standard plans, meeting general sanitary requirements as well as regional needs, have given good results, and such a method should be encouraged. The houses so designed should be simple in plan and economic in construction."

In regard to the housing of farm workers in particular, the Conference was of opinion that its improvement presents certain difficulties which cannot be met merely by education or the employment of persuasion. In this respect the farm worker is in a special position of inferiority. Adequate legislative measures properly applied and financial public assistance are also essential for the gradual solution of this problem.

The unsatisfactory housing conditions of this class of workers form an additional stimulus to their migration to the towns where more attention is given to the housing of workers. This tends to lower the standard of life in the country districts and acts as a check on progress in hygiene.

The organisation in the different countries of services of sanitary inspection was recommended, such services to ensure with all the necessary authority that the hygienic conditions of the housing of farm workers are satisfactory and that the regulations issued on the subject are observed. The Conference called attention to the recommendation of the International Labour Conference (1921) on the subject of the housing of farm workers.

Improvement of houses by appropriate methods of repair (reconditioning) has also been taken into consideration, in the belief that when such work is properly directed and supervised it is likely to give excellent results at comparatively low prices.

The opinion was also expressed that the construction of model villages and farm colonies is of special importance in view of healthy rural housing, and that the tendency to place industrial establishments in the rural districts is to be encouraged, since building of this kind on modern lines tends to be followed

by the formation of model villages meeting all sanitary requirements. In the course of preparation of the plans of these villages and farm colonies, the sanitary authorities should have jurisdiction over all questions relating to hygiene or improvement of existing sanitary conditions.

Some of the considerations and principles indicated above had already, as will be shown later, influenced the legislation of certain countries, but their more universal and stricter adoption is greatly to be desired. It is true that there are also collective agreements containing certain clauses regulating rural housing, but as the main object of these agreements is usually that of regulating hours of work and wages, the question of housing is frequently relegated to the second place, and actually no appreciable improvement has so far resulted from attempts at regulation by means of collective agreement. It is consequently felt that the most appropriate method of providing adequately and effectively for housing requirements is a legislation of a detailed and, if possible, special character. It is not essential that this legislation should form part of a Hygiene or Building Code, nor need it form the subject of a distinct text. What is essential is that a sufficient number of points should be fixed as clearly as possible, that the legal provisions should be really practical and above all that they should be enforced (1).

In recent developments of the housing policy of Governments there may be noted a tendency to include the rural problem under the urban. Thus in Italy, the single text of 30 November 1919, No. 2318, included newly-erected rural buildings in the exemption from taxes and additional charges, and extended to them the credit advantages granted to urban building; in France, the legislative activity in favour of popular housing during the last fifty years was general in scope and was intended to benefit alike town and country areas, in the Netherlands, the law of 1901 on insanitary dwellings included instructions in regard to hygiene and made provision for grants in aid equally for urban or rural centres; in Belgium, the law of 11 October 1919 set up the *Société Nationale des Habitations à bon marché* which makes it its business to promote alike both town and country building (2); similarly in Rumania, an agricultural country, where the worker in the industrial centres comes from the country, there is a single type of popular dwellinghouse, and the legislation on the subject has a joint character.

In addition to this legislation applying to both town and country as a consequence of the similar economic elements in the problems, special legislation and special governmental activities are being undertaken for the country districts. Here a further distinction should be made between the regions in a country which are being brought under organic schemes of land settlement, land reclamation and transformation, and the regions for which plans of this kind are not in existence. In the first case perceptible progress may be noted

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(1) See article on the Housing of Farm Workers in the *International Labour Review*, Vol. XXV, No. 3, Geneva, March 1932.

(2) FERNAND GOSSERIES, *Directeur général de la Société nationale des habitations à bon marché: L'habitation à bon marché en Belgique. Revue du Travail*, 33<sup>rd</sup> year, No. 8. Brussels, September, 1932.

in respect of number of buildings and their sanitary condition, a progress which is due to the financial assistance of the State and to its systematic direction and supervision; in the second case, on the contrary, where the provision must be made by private initiative with only very small grants in aid and without any strict public control, a certain slackening and even a definite stoppage is noticeable due to the price crisis which especially affects the farmers.

It is of interest moreover to note the great caution with which schemes having reference to rural building are now examined, in view of the financial difficulties of the present time. Care is taken to ascertain the economic suitability in relation to the size of the farm for which the buildings are intended and the return obtained from it. In the past a disproportion was often noticed between the rural buildings and the extent of the farm and its farming system, frequently entailing far too heavy a burden on the farmer. It is now more fully understood that it is necessary to proportion the expenditure on buildings to the size and type of the farming enterprise. This is confirmed, for instance, by the instruction given by the Union of Swiss Peasants to its Building Departments. The purport of this is that they should not undertake to carry out rural buildings without having examined the applications from the economic and financial standpoint. Persons intending to undertake the construction of buildings must first fill up a schedule distributed in advance by the Union, stating the amount of the expenditure contemplated. This statement of the expense is examined by experts with reference to the value of the farm and the financial situation of the applicant, and the decision as to whether the application may be accepted or not rests with these experts. In cases where further confirmatory enquiries are necessary, special surveys are undertaken by the Valuations Office of the Union. In Italy the Under-Secretary of State for integral land reclamation bases all action on the same principle of economic control.

Technical enquiries, valuable as they are for the solution of questions relating to the improvement of sanitary conditions in rural neighbourhoods, become in fact in the present situation, subordinated to the economic factor. Extensive schemes of improvement, as any far reaching reforms in rural building, require means for their execution which frequently cannot be supplied by private persons, and can only be ensured by the intervention of public authorities, either directed at co-ordination of private funds, or, more effectively still, making loans or even grants of funds without stipulation of repayment.

Some account of the work done by the Governments is given here in the form of notes, which in the case of the countries dealt with in the previous article, will bring up to date the information there given. For countries not previously dealt with a short synopsis of governmental activity will be given.

**ENGLAND AND WALES.** — The question has become one of national interest as the housing shortage is, as elsewhere, reacting unfavourably on the prospects of the agricultural industry and is hampering attempts at rural reconstruction.

Under the Addison Scheme (Housing, Town Planning, etc. Act, 1919) the local authorities were empowered to build houses for the working classes and to let them at what were virtually pre-war standard rents. The total number of houses completed in rural districts under this Act was 35,915

The Housing Act of 1923 (Chamberlain Scheme) provided for the payment of an Exchequer contribution at the rate of £6 annually for 20 years for each house erected according to the conditions of the scheme, and permitted the Local Authority to grant further assistance from the rates. The Exchequer contribution was reduced to £4 for houses completed after 30 September 1927, and was finally withdrawn in respect of houses not completed before 1 October 1929. The total number of houses erected in rural districts under this Act was 118,608

In 1924 by the Housing (Financial Provisions) Act provision was made for the payment of an Exchequer contribution at the rate of £9 per house annually for forty years, raised to £12 10s. for houses in agricultural parishes. These houses were subject to certain conditions, including: the obligation to reside; prohibition of assignment, subletting, or alienation of the whole or part of the house without the written consent of the Local Authority; a certain limit fixed in regard to the amount of the rent; a preference to be given to large families. The Exchequer subsidy was reduced to £11 in agricultural parishes for houses completed after 30 September 1927, the local rate subsidy being reduced at the same time to £3 15s. It may be noted that Section 34 of the Act of 1930, to be referred to later, provides that the County Council shall contribute £1 per house annually for 40 years towards the expenses of the Rural District Council incurred in the provision of houses erected under the Act of 1924 (as well as under the Act of 1930) for the agricultural population.

The total number of houses completed in rural districts under this Act (1930) up to 30 September 1931 was 47,059

It is felt that the chief need in the rural, as in the urban, districts at the present time is for the continued construction of houses of the three bedroomed, non-parlour type, with a total floor area of at least 760 square feet. At the present time the cost of a rural cottage of this type may be reckoned at from £355 to £370.

The Housing Act of 1930 deals with the clearance or improvement of unhealthy areas, the repair or demolition of insanitary houses, the provision of Exchequer assistance towards the cost of rehousing operations, rural housing, etc. County Councils are instructed, as respects the rural districts within their areas, "to have constant regard to the housing conditions of persons of the working classes, and to the extent to which overcrowding exists." The County Councils are further under an obligation to make a contribution of £1 per house annually for 40 years towards the expenses incurred by Rural District Councils in the provision of houses for the agricultural population. In the event of default by a Rural District Council, powers are conferred upon the County Council to hold a public local enquiry, and to transfer to themselves the respon-

sibilities concerned, and the Minister of Health may himself take action if the County Council fail to exercise these powers.

The object of the Housing (Rural Workers) Act, 1926 was to contribute to the improvement of housing conditions for agricultural labourers and other country workers by facilitating the reconditioning of old houses and by the conversion into dwellings of buildings not previously used for that purpose. The Act provides for assistance by grants and by loans to be made available by Local Authorities to owners who are willing to undertake the carrying out of approved works. Typical examples of the kind of works covered by the Act are as follows :—

(a) alteration or repair, *e. g.*, the rebuilding of walls ; pointing or rough-casting or other substantial repairs to walls ; provision of rainwater gutters or pipes ; provision of damp courses ; enlargement of windows.

(b) Enlargement, *e. g.*, the provision of extra accommodation, such as an additional bedroom, a scullery or wash house, food larder and fuel store.

(c) Water supply and drainage; this includes such items as wells, pumps, cesspools, etc.

(d) Sanitary conveniences, *e. g.*, the introduction of more modern conveniences, the provision of a bath, copper or sink, or the provision of gas or electricity.

The amount of the grant, which in practice is usually paid to owners after the completion of the works, is not to exceed either two-thirds of the estimated cost of the works or the sum of £100 in respect of each dwelling. The contribution of the Exchequer towards the expenses incurred by Local Authorities under this Act is made by way of annual payments for 20 years, and is " an amount equal to one-half of the estimated average annual charges which would be payable by the Local Authority over a period of 20 years in interest and loan redemption on a loan equal to the capital value of the grant made by them in respect of each dwelling. "

The conditions attaching to the grants are somewhat stringent, being as follows :—

(1) The dwelling shall not be occupied except by a person, whether as owner or tenant, whose income is, in the opinion of the Local Authority, such that he would not ordinarily pay a rent in excess of that paid by agricultural workers in the district.

(2) The rent payable by the occupier shall not exceed the " normal agricultural rent " plus 3 per cent. of the owner's own expenditure on the works.

(3) The owner of the dwelling shall give a certificate that these conditions are complied with.

(4) No payment by way of fine, premium or otherwise, to be made or received on the transfer of the tenancy.

These conditions remain applicable for 20 years and attach to the dwelling irrespective of ownership.

As regards loans, these must be secured by a mortgage of the dwelling and must not exceed 90 per cent. of the value of the dwelling after the completion of the works.

Up to 31 March 1931, assistance had been given or promised under the Act in respect of 4,391 dwellings by 164 Local Authorities. At the same date the reconditioning of 3,377 dwellings had been completed, and grants amounting to £255,147 had been paid, an average of approximately £76 per house.

It was originally intended that assistance would be available under this Act only in respect of applications received by the Local Authority before 1 October 1931. Its application was however extended by the Housing (Rural Workers) Amendment Act, 1931, for a further period of five years, *viz.* to 30 September 1936.

According to a statement made in the House of Commons on 7 July 1931, about 410,000 new dwellings had been constructed at that date in rural districts in England and Wales since the War. It was also stated that the building programmes submitted to the Ministry of Health on behalf of Rural District Councils under the Housing Act, 1930, failed to show that the real needs of the agricultural workers were likely to be met under the Acts of 1924 and 1930. In view of this situation, the Labour Government introduced a special measure which was passed under the title of the Housing (Rural Authorities) Act on 31 July 1931. This Act enables "special Exchequer contributions" to be made to certain rural housing authorities for the provision of houses in agricultural parishes for agricultural workers and persons of substantially the same economic condition. The Act provided for the appointment of a Central Advisory Committee for England and Wales and a second body for Scotland, to consider applications for the special assistance, submitted by the Rural District Councils concerned (in Scotland, County Councils). In order to qualify for the special assistance, the Rural District Councils were to present their applications to the Committee before 30 November 1931.

The special assistance which the Committee may recommend will take the form of annual grants payable *in addition* to the Exchequer contribution payable in respect of the houses under the Housing (Financial Provisions) Act, 1924. These annual grants will be fixed in amount for a period of 40 years. The Committee will endeavour to secure that the gross rental of any assisted house shall not exceed 4s. 6d. a week.

In a Memorandum (1) dated November 1931, relating to rural housing, the National Housing and Town Planning Council recommends, *inter alia*, the

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(1) Memorandum upon the Rural Housing Problem, with special reference to the provisions of the Housing (Financial Provisions) Act, 1924; the Housing Act, 1930; the Housing (Rural Workers) Acts, 1926 and 1931; and the Housing (Rural Authorities) Act, 1931, by John G. MARTIN, Secretary of the National Housing and Town Planning Council. National Housing and Town Planning Council, London, 1931.

general adoption of the practice followed by some rural authorities of allotting a quarter of an acre of land, instead of the customary one-eighth, to each cottage.

The Council also recommends that the sanitary authorities should inspect dwelling houses in their districts and should close, until such time as they are made fit, any houses which are represented by the Medical Officer of Health as unfit for human habitation. In suitable cases influence should be brought to bear on owners with a view to their undertaking, with the benefits of the Acts, a thorough reconditioning of unfit cottages (1).

In AUSTRIA (2) the housing conditions of the rural workers, which generally speaking correspond to the hygienic and social requirements considered necessary, vary in accordance with the region and the locality, following local tradition or usage. On the larger farms the prevailing type for the permanent workers is that of the *Werkswohnung* (3), while on the small farms and on the family farms, especially in the case of married couples, the larger number are owned houses or houses intended for one or two families and belonging to the employer. Labourers who are single men usually live under the same roof as the employer.

According to the constitutional Law of the State, it is the provinces which must make provision for the supply of houses for the rural workers. In 1930, in view of the increasing tendency to migrate to urban centres, the Austrian Government was obliged to make grants in aid, so far as the national budgetary resources allowed, the subsidies being granted under certain conditions for the purpose of adaptation and repair of houses intended for rural workers.

In application of the Federal Law of 15 April 1921 (*Bundesgesetzblatt*, No 252), employers in respect of agriculture and silviculture who have dependent on them workers and employees who come under the law for sickness and old age insurance, are obliged to contribute to the Federal Fund for housing and land settlement. This contribution is at present fixed at one *Groschen* per person and per week. The Fund is earmarked for the construction of houses reserved for the exclusive use of workers and employees engaged in agricultural or silvicultural work.

The housing conditions of rural day labourers are naturally more primitive than those of the farm hands in regular employment, and do not fully correspond to requirements, although in recent years efforts have been made to introduce improvements in this field also.

(1) On the present position as regards rural housing see also. JOHN G. MARTIN. "Housing Week, Present Opportunities and Needs", *Manchester Guardian*, London, 28 January 1932. — "Some Notes on Housing in England", *Woman's Leader*, Vol XXIV, No. 5, London, March 1932.

(2) Communication sent to the International Institute of Agriculture by the *Bundesministerium für Land- und Forstwirtschaft*.

(3) See p. 19 of "Les habitations rurales. Contribution à la Conférence d'hygiène rurale (Société des Nations, Genève, 29 juin 1931)". International Institute of Agriculture, Rome, 1931.



The housing of the owners of family farms or of peasant families may be said to be good and even very good in the regions frequented by tourists and in the neighbourhood of the larger towns.

Any failure to reach this standard in other regions or to observe hygienic requirements may be ascribed to the poverty of the population and to the fact that in many localities, the necessary account has not been taken, in the construction of the houses, of the proper internal distribution of rooms.

In view of the agricultural crisis, the majority of the peasant or family farming class is compelled to give up hope of improving housing conditions, since building expenses are too high and the cost of borrowed capital is too great in view of diminished returns.

The rural population of BULGARIA (1), including 80 per cent. of the total population, is distributed over about 700,000 small independent farms, under direct cultivation, with live and dead stock and farm buildings all belonging to the cultivator.

Although Bulgaria is a comparatively small country (about 100,000 square kilometres) there is a great variety in its topography, climate and economic conditions. This variety is reflected in the rural building. There are however two main groups of rural building in Bulgaria: (1) building in the mountain regions, (2) building in the plains.

The houses in the mountain regions are usually two storied. The lower floor is used for stabling, while the upper part is the dwelling and consists of a kitchen in which is the hearth, and one, or two or three rooms, according to the economic conditions of the owner. Access to the upper floor is provided by an outside staircase which leads to a kind of verandah. This verandah is open although roofed, and from it the other rooms are entered to right and left. The lower part is built of stone; the upper part, which nearly always overhangs the walls of the lower floor, is wooden; or more precisely there is a wooden scaffolding with the interstices filled in with bricks, either kiln or sun dried, or sometimes a frame of branches is made filled with rough cast clay. All rural dwellings have a roof which projects over the walls of the upper floor. The roof is made of laths of wood or of tiles; the windows on the lower floor are very small, but those of the upper floor are sufficient in number and admit light to the extent necessary; they are placed in twos or threes and give a pleasing appearance to the white walls.

In the mountain regions the farmyard is small, the dwelling is placed at one end of the yard, and the outhouses are surrounded by a roughly built wall (2).

(1) According to a note sent to the International Institute of Agriculture by the architect, M. TCHARDAPONOFF of Sofia.

(2) DIMITAR G. POPOV: *Selisko-stopanski dvor i postrojki (The Farmyard and the Farm Buildings)*. Sofia, Petchinitza Bojinova, 1931.

There are of course variations of this fundamental type of the Bulgarian rural house according to the different climatic, topographical and economic conditions, and also according to the standing of the owner.

The greater number of the villages in the mountain regions are in step form; the pathways are narrow and tortuous, sometimes paved, sometimes not. Especially in spring and autumn these villages are picturesque with their houses whitewashed within and outside, with their silvery grey wooden roofs and their verandahs adorned with flowers, climbing plants, and espalier vines.

Dwelling houses in the plain regions usually cover a comparatively large area, and for the most part consist of a single floor. They are raised by two or three steps above the level of the ground, and outside along the whole length of the house or only on the south or west side there runs an open, roofed in, verandah. During the summer this verandah is used as a dining room and as a bedroom. At one end is the kitchen with the hearth and a kind of oven for baking bread; to the right and left of the kitchen are the other rooms.

The stabling is found either behind the house, or to the side.

Farm or household stores are kept in storeplaces arranged on the sides of the house away from the verandah, when the construction of underground cellars is not possible owing to the presence of subterranean water. The whole is under the common roof of the house which in itself is of pleasing and harmonious appearance.

The roof is somewhat sloping and projects considerably over the wall. Owing to the slightness of the slope the space under the roof (the *tavan*) is as a rule, both in the houses of the mountain regions and in those of the plains, not utilisable. It is rare for the roof in Bulgaria to have less than a 30° inclination. If it is desired to have room under the roof for a barn, the walls on the four sides are raised and the house is covered with a flat roof.

In the plains, there is naturally a much greater variety in the type of dwelling house, in accordance with climatic and other conditions. It is sometimes two-storied as in the mountains, but in this case the stabling forms a separate building instead of being found on the lower part. For some time past there has been a tendency in these plain regions to place the stabling at a certain distance from the house.

The building materials for houses and other buildings consist of brick, kiln- or sundried, for the walls, and stone for the foundations. Roofs are tiled, thatched roofs having almost disappeared. The walls are rough cast in clay both inside and out and whitewashed. The floor of the dwelling is beaten clay. The window space is sufficient for the admission of light into the dwelling.

Generally speaking, the Bulgarians have an innate sense of the hygiene of the dwelling and do all possible to make their homes correspond to good conditions of hygiene.

In regard to the farmyard and the buildings other than the dwellings, it is only on the more well-to-do farms that one finds a really satisfactory arrangement and a sufficiency of building for all purposes. In a small farmyard the farm buildings are placed in line along one side of the house or at most form a rectangle. At first sight the buildings seem to have no connection

with each other, but on more careful inspection they are seen to be arranged with a view to easy communication and control and to protection against weather conditions

The Bulgarian peasant keeps his cereals in special barns ("Hambari") which are built of planks, or else he places his grain in covered baskets. Maize before husking is placed in small huts built of laths and wicker. All such storeplaces are situated at about one metre above the level of the soil, and in the best ventilated part of the farmyard, but close enough to the house to allow of supervision by the owner. Pigs are kept in very primitive sties made of rough hewn wood, while the poultry take shelter in the trees for the whole year round.

As a result however of the propaganda work done by experts and by various organisations for the encouragement and progress of agriculture, noticeable improvement has been effected and at the present day the Bulgarian peasant recognises that if he is to make the profits hoped for on stock farming and poultry raising, he must arrange for hygienic stabling and shelter.

Encouragement of rural building is due to the Ministry of Public Works and the Ministry of Agriculture. The Ministry of Public Works was active in introducing a Law under which all owners who have agreed to construct rural building to the types and the plans established by the Ministry will enjoy for a period of ten years exemption from the tax on building property. A special technical Section has been attached to this Ministry, with the function of making the necessary proposals for village planning.

The Ministry of Agriculture includes a building office. In addition to its specific functions which include provision for the buildings on State farms and for those of the institutions under the control of the Ministry, this Office also publishes popular handbooks which contain plans and instructions in reference to rural buildings. These are distributed free. The Office also arranges for the publication of articles on these questions in several agricultural reviews.

Courses on rural housing are followed by students of the Faculty of Agronomy of the University of Sofia, who will be the future rural engineers, and by students of the technical school, who will be the assistants of architects and engineers.

The Bulgarian peasant is deeply attached to his home. He erects new buildings whenever he can; he repairs and improves the existing buildings and throughout preserves his sense of economy, hygiene and comfort. He has intelligence and good sense, and is moreover always ready to accept advice and even criticism from experts, and to add to the knowledge he already possesses.

*(to be continued)*

G. COSTANZO.

## BIBLIOGRAPHY ON ECONOMIC AND SOCIAL QUESTIONS

TÖNNIES, Prof. Dr. Ferdinand: *Einführung in die Soziologie*. Stuttgart, 1931. Verlag Ferdinand Enke, 327 pages.

[To those at all familiar with sociological enquiry and with the problems thus raised, the importance of the contribution made by Prof. Tönnies to the subject will be already well known. It is generally recognised that a far reaching influence has been exercised for nearly half a century on studies of this kind by the distinguished sociologist who is President of the German Society of Sociology (*Deutsche Gesellschaft für Soziologie*).

Prof. Tönnies adopts a method analogous to the research methods of the natural sciences. In biology, for example, if complete understanding of the organism and of the physical and chemical laws which regulate its working is to be reached, the analysis cannot stop short of the living cell, and in the same way the author endeavours to resolve the social organism into its simplest elements, sociological atoms, so to speak, so as to arrive at a fuller comprehension. In this way he formulates fundamental ideas on the forms of association which are, as it were, the nuclei of all collective entities, alike the community (*Gemeinschaft*) and the society (*Gesellschaft*). These ideas found their first expression in the book of his youth: "*Gemeinschaft und Gesellschaft*", published in 1887 and now in its seventh edition. The plan of the book now under review was submitted originally by the writer to the Fifth International Congress of Philosophy, held at Naples in 1924. This work is in part a more complete development of some points in his general theory and in part an attempt to put his system to the test in relation to historical reality.

According to the author, at the base of every community, in the widest sense of the word, there is found the family or an association of persons linked together by consanguinity, whereas the society is a grouping of persons linked together by a social contract, as is the case for example in a joint stock company. The formation of all parties, of social classes, of the State, of the Nation, as also the constitution of trusts, syndicates, etc., may be reduced ultimately to these two prototypes of social organisation, being simply derivatives of these at different stages of their sociological development. Historically the community precedes the society in the cultural life of any collective entity. The former may be transformed into the latter, but the inverse of this sociological process never occurs.

A well determined sociological content corresponds to this difference in sociological forms, *viz.* the diverse modes of ownership. To the community there naturally belongs the collective ownership of the land, the primitive agrarian communism. This mode of joint holding of land, the origin of which goes back to the dawn of history, survives up to recent times in the German rural community (*Feldgemeinschaft*), in the family community of property found among the Southern Slavs (*Zadruga*), in the agrarian constitution of the Russian *Mir*, etc. As regards the *Mir* in particular, Prof. Tönnies maintains that, far from being of recent origin, as is affirmed among other writers by von Haxthausen, the first to make a study of this Russian form of land tenure, it really goes back to the earliest times, and is an agrarian collective form based on family elements. In making this pronouncement he relies rather on his own deductive method than on an inductive analysis of economic facts.

Private property in general and especially private property in land develops later from these forms of joint ownership, in consequence of the predominance, under a capitalist system, of the society over the community. This tendency has been very noticeable in the agrarian legislation of the different European countries during the last two centuries, including the post war measures of agrarian reform.

This conception of the social structure and this excessive narrowing down of the sociological bases has even in Germany found critics among scholars who, if not actually attacking the principle, are opposed at any rate to the somewhat dogmatic method of presentation.

The dynamic forces at work in all social progress are not, in Prof. Tönnies' opinion, to be found in the abstract idea which Hegel postulates as manifesting itself in history and determining its course, nor in the human spirit of Comte's positivism, nor in the gradual improvement of the moral sentiments, as held, for example, by Tolstoi. All these undoubtedly play a great part in the history of nations, but the most decisive factor, that which imprints itself on all social life, consists in the economic conditions of a particular epoch. Prof. Tönnies accordingly accepts Marx's postulate of historical materialism, although he does not omit to recognise that all the factors in historical progress, economic, spiritual and political, etc., are blended together and are interdependent. All through history it is always the class economically the strongest which strives to endow its own claims and aspirations with the form of law and justice. This is especially the case in agrarian policy. In the England of the XVIth century, for example, it will be remembered that the all powerful landed aristocracy moulded the agrarian constitution in such a way, by the so-called "clearing of estates", or incorporation of the peasant or family holdings into their own lands, or by the enclosure of commons, that the right of the landlords kept on growing stronger at the expense of the rights of the peasants who saw their lands undergoing repeated and constant shrinkage. The same phenomenon may be observed in France throughout mediaeval times and up to the Revolution, and in Germany up to the introduction of the new agrarian constitution at the beginning of the XIXth century.

An approximate idea only is conveyed in this note of the importance of this work. It is throughout of great interest but requires on the part of the reader a fairly thorough acquaintance with sociological theory. The book will not be found to contain, as might be expected from the title, merely "prolegomena" to sociology, but rather provides a commentary on sociological science, or the theory of pure sociology, at least as understood by the author.

HORACE PLUNKETT FOUNDATION. *Agricultural Co-operation in Ireland: A. Survey.* London, George Routledge and Sons, Ltd., 1931, XIV+424 pp.

[This is a companion volume to the *Survey of Agricultural Co-operation in England* previously published by the Horace Plunkett Foundation. Beginning with an historical sketch of agricultural co-operation in Ireland and a special chapter on the legal position of the movement, it proceeds to a detailed survey, containing accounts of the principal co-operative societies in each county in the Irish Free State and in Northern Ireland. Statistical tables, relating to the Year 1929, are then given, and there follow chapters discussing the organisation and working of co-operative creameries, of agricultural societies, of credit societies, and of miscellaneous marketing societies. The final chapter is devoted to an account of the central propagandist and advisory body, the Irish Agricultural Organisation Society, and of the similar body that was formed in Northern Ireland after the political separation of Northern Ireland from the Irish Free State.]

The account given of the movement is all the more instructive because it is perfectly frank. The results are not exaggerated; the failures and weaknesses of the movement and the mistakes committed are not concealed.

The impression which is left on the mind of the reader is that the results of so many years of devoted effort on the part of the founder of the movement, Sir Horace Plunkett, and of his associates are somewhat disappointing. Only one form of agricultural co-operation — co-operative butter-making — has been strikingly successful in Ireland and even in this field centralised marketing has not yet been successfully organised. The co-operative supply of agricultural requisites has only had a limited success, in spite of the existence of a moderately successful central trading body. Co-operative bacon-curing is represented by three successful societies, but the co-operative marketing of produce other than butter and bacon, though frequently attempted, has had little success. Co-operative credit, in spite of much effort to promote it, remains almost negligible. Perhaps the lesson to be drawn from the history of the movement is the necessity of concentrating on those forms of co-operation which prove to be successful. Co-operative dairying was immediately successful, and the co-operative supply of requisites has been most successful where carried on by dairy societies side by side with the manufacture of butter. The extension of co-operative supply to districts where there was no scope for a co-operative creamery would probably have followed naturally and much of the effort spent in earlier years in the formation of special agricultural societies, many of which have since disappeared, might have been spared. The failure of co-operative credit to develop is not easy to explain, as conditions in some parts of Ireland do not seem to be fundamentally different from conditions in countries where it has been a remarkable success, but the fact remains that the efforts to promote it in Ireland have been largely thrown away.

The volume is preceded by a "foreword" written by Sir Horace Plunkett, whose recent death gives it almost the character of an economic testament. Sir Horace does, indeed, urge the necessity for a great endeavour to put an end to the present agricultural crisis and suggests a policy, applicable rather to England than to Ireland, as a beginning of that endeavour. "The most promising help to the Nation," he writes, "would be the settlement, upon land outside the wheat-growing area, not of isolated small-holders, but of groups of them carefully selected with a view to their achieving economic independence as rapidly as possible." The policy may or may not be sound, but the arguments by which Sir Horace Plunkett supports it show that it is inspired by that spirit of economic nationalism which is itself so largely responsible for the world agricultural crisis.]

CRAMOIS ANDRÉ: *Les Associations agricoles dans les Colonies Françaises*. Paris, Fédération Nationale de la Mutualité et de la Coopération agricole 29 Boulevard St Germain, Paris VI

[In this pamphlet is presented a clear and complete general survey of the present state of development of co-operation in the French Colonies. From the fact that the author is Assistant Inspector general of the *Caisse Nationale de Crédit Agricole*, and Technical Delegate of the *Fédération Nationale de la Mutualité et de la Coopération Agricole* it may be regarded as authoritative.]

After a rapid summary of the legal position and of the different forms assumed by co-operation in France, the writer proceeds directly to the present conditions of co-operation in the colonies. For convenience he has divided the colonies into four large groups taking as basis the differences of administrative organisation.

The North African group includes colonies lying very near to France and subject to the same climatic conditions, and the European settlers represent a large proportion of the population, so that it is not surprising that co-operation has developed as a branch of the organisation in the mother country. Co-operative agricultural credit, producers' co-operation, mutual insurance are all well developed, and in Algeria, as in Tunis and Morocco, these different forms of co-operation are supported equally by the indigenous population as by the European settlers.

The group of early colonies known sometimes as the "old colonies" includes mainly a certain number of islands, the remains of the French colonial empire of the XVIIIth century. To some readers it may be a matter of surprise to learn that even before the formation of agricultural association in France these colonies had, with the assistance of the local banks of issue, organised a type of agricultural credit, more especially in the West Indies in 1848 at the time when the abolition of slavery dealt a death blow to the plantation system.

The agricultural syndicates, the producers' co-operative societies, the co-operative agricultural credit societies, are much in favour among the small cultivators who form the majority of the existing population at the West Indies and Reunion. In French Guiana there is only a bank of agricultural credit; in New Caledonia four syndicates and in the New Hebrides a producers' co-operative society. The French Settlements in Oceania have a Credit Bank and several producers' co-operative societies of different kinds.

The group of colonies which are subject to the administration of Governors General is the most important from the economic standpoint, as they are areas of development by the enterprise of a white population which is very small in comparison with the native. In the group of African colonies the natives are still too little adapted to European civilisation for co-operation to be developed otherwise than on a small scale and under the most primitive forms, such as stock farming co-operative societies. The European settlers on the other hand have formed in these regions associations for the protection of their interests.

For Indo-China the situation is altogether different. The white settlers are few in numbers and have large capital resources, but the great mass of the population is made up of small native farmers whose improvidence has frequently made it necessary for them to contract debts, often with foreign creditors (Chinese or Hindoo), at excessive rates of interest up to 200 per cent.

The necessity establishing for co-operative agricultural credit among the indigenous population was becoming strongly felt and the idea has gained universal acceptance. In 1930 loans were made to the natives through co-operative agricultural credit to the amount of 15,108,778 piastres, or more than 151 million francs. The number of members has risen to 14,398. A Bank of Agricultural Credit lent to Europeans in 1930 a total of 239,080 piastres, the membership being only 115.

Among the mandated countries, Cameroon is the only one with a few native producers' co-operative societies and one co-operative agricultural credit association].

E. G. NOURSE and KNAPP: *The Co-operative Marketing of Livestock*. Washington D. C. The Brookings Institution, 1931.

[In this volume which deals with a subject of great importance at the present time, there will be found not only a general view of all the operations involved in the distribution of livestock by co-operative methods, but also a detailed study of each of the phases of this distribution. The relative importance of different types of

co-operative organisation, and the immense part played by these societies in the economic life of a great nation in which livestock products hold a premier place in agricultural economy are especially emphasised.

The book is divided into three parts dealing with different aspects of the question.

Part I is devoted to an examination of the livestock shipping associations from the time of their first formation, more than a century ago during the period of pioneer colonisation in Ohio and other regions, up to recent years when after the war this movement was characterised by extraordinary success and rapid expansion.

A careful study is made of the causes which led to the formation of these associations, viz: the dissatisfaction with the services of local livestock buyers, and the necessity under which the small growers found themselves of grouping for the purpose of shipping their animals to the more distant markets.

Among the stimulating factors, the authors give the full credit to the large farmers' societies, such as the Society of Equity and the Farmers' Union, both of which had a very active development throughout the Middle West over a period of twenty years.

In Part II the methods followed by the different local co-operative societies that were formed in response to these requirements are described and criticised and a full account is given of the changes that came about in the system of assembling stock or shipping and sale of stock on terminal markets. The increasing complexity of the services to be rendered by the local shipping association resulted in these bodies also undertaking the sale on these important markets. Thus as time went on, there was the phenomenon of the entrance of the small growers combined in co-operative societies on the market of the great meat-packing centres. Subsequently the national producers' associations adopted the same method, and took delivery on the market of consignments made alike by the local co-operative societies, and by isolated growers, selling on commission for the account of both types of shippers. Side by side with this system, and especially since the extensive pooling of private meat packing enterprises, another method of purchasing live stock has developed which may be described as the direct method and consists in buying direct from the stable or taking the animals direct from the producer, sending them straight to the packers without passing them through the market. The co-operative societies adapted themselves also to this method and took steps to facilitate relations between the ranchers of the West, the producers of store cattle and the fatteners of the regions of intensive cultivation in the Middle West. These latter buy the store cattle and fatten them before reselling on the market of the other areas. In this way there came into being a new form of co-operative purchase and sale, the National Order Buying Company, which renders great services to these two classes of farmers by facilitating "contacts" and making unnecessary costly and troublesome journeys.

Auction sales of hogs and of other live stock, and the special types of sales effected in the West and South are also discussed.

Part III is devoted first to an appraisal of the results accomplished by co-operative live stock marketing organisations, and of the improvements introduced thereby from the standpoint of diminution of costs of distribution, and convenience of central marketing organisation for the producer. The intermediary services rendered by these commission co-operative agencies also receive recognition. By such means thoroughly trustworthy service is ensured, and in addition social advantages result from placing in the hands of a representative of the producers a mass of products with the effect that prices are influenced, a system known as collective bargaining.



The Agricultural Marketing Act creating the Federal Farm Board was passed on 15 June 1929, and in this way, as complementary to these channels of distribution which were so largely co-operative in form and methods of working, a central organisation was constituted which although displaying no anxiety to control them directly had nevertheless adequate financial means to exercise a powerful influence on their policy.

The action of the Federal Farm Board in this respect was in fact of a co-ordinating character with the object of obtaining if not a complete stabilisation of prices at least some effective limitation of excessive speculation. The interest of this book is greatly enhanced by the fact that its publication is of so recent a date as to enable the authors to make some examination and to give an opinion on the activity of the Federal Farm Board.

The appendices give information, derived directly from documentary sources, on hog price differentials between principal terminal markets, year to year and seasonal hog price differentials, week to week differentials, and day to day differentials between the markets of Chicago, Kansas City, Omaha, Saint-Louis and Saint Paul. The appendices also present the behaviour of prices on interior markets, classification as to weight and quality as followed by the different large packing companies, the relation between direct purchases and hog prices. In conclusion examples are given of the terms of constitution of various important co-operative associations.

It may be added that in the preparation of this valuable work, the authors have maintained close touch with persons actively participating in or intimately informed concerning co-operative livestock marketing agencies in the United States of America].

BOYAZOGLU, Dr Alexandre J. Agricultural Credit, London, 1932, P. S. King and Son, Ltd pp XXXIV-267

[After some observations of a general character, intended to give the reader some idea of the essentials of the subject, the author proceeds to a further determination of the objects of agricultural credit, the characteristics peculiar to this form of credit and the place it occupies in the general credit structure. Next follows a study of the capital resources in rural economy, with an examination of their nature and grouping. A full account is given of the development of the capital requirements of agriculture, requirements which have grown very rapidly in the past and are at present very large. Dr BOYAZOGLU proceeds to give a general description of the organisation of agricultural credit and the forms under which it is found, beginning with a highly condensed survey of banks as a whole, in which he emphasises the points relating to agricultural credit in respect of each type of bank. Taking certain criteria as bases, the author distinguishes several forms of credit, but he remarks at the same time that there are certain combinations of these forms which are more usually found in practice, and that the most satisfactory groupings are those which are based on guarantees. A separate chapter is devoted to the subject of guarantees of agricultural credit.

The last chapter is devoted to international agricultural credit. The author emphasises the necessity of a scientific distribution of capital resources within international rural economy, stating that in his opinion the only solution capable of effecting such distribution is the foundation of a central international institution of agricultural credit.

The author has taken care to utilise the best sources of documentation and in particular as may be seen from the bibliographical list appended to the volume, he has made frequent use of the publications of the International Institute of Agriculture].

**MISSER, Dr. Karl:** Währungspolitik und Industriepolitik, Agrarpolitik und Sozialpolitik im Italien der Nachkriegszeit. Verlag Franz Pietzker. Tübingen, 1931.

[The object of this publication is to examine the social and economic policy of the Fascist regime from its beginning up to 1930.

The work falls into three parts, and Part I is a general discussion of the development of Italian economic life and in particular of the monetary and industrial policy of the Fascist Government. The questions treated in this first part are: the pre-war and war economy, the post war crisis, the opening of the Fascist regime and the encouragement given to economic activity, the fall of the lira and the period of prosperity followed by the check to prosperity, the revalorisation of the lira and the deflationary crisis, the legal stabilisation of the lira and the renewed encouragement given to economic activity, deflation once more and the world crisis; a note on the course taken by the currency.

Part II deals with the agrarian policy of the Fascist Government. After briefly summarising the development of agriculture up to 1925, the writer deals with the intensification of production, the Wheat Campaign, integral land improvement, the policy relating to agricultural labour, credit assigned to agriculture, adaptation of production to demand, tariff policy in its relations with prices, the agricultural crisis, agriculture in its relation to the trade balance, forestry policy and economy.

In Part III Dr. Misser examines the social policy of the Fascist Government and in particular the syndical and corporative organisation, the policy as regards wages, the labour legislation, social insurances, policy in respect of unemployment, etc. In conclusion some final considerations are set out as regards the achievements of the Fascist regime in the different spheres dealt with by the writer, as well as in regard to future prospects. As remarked in the preface an acquaintance on the part of the reader with the leading ideas and also with the history of Fascism is presumed].

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The International Institute of Agriculture at Rome has recently published under the title of :

# LE MAÏS DANS LE COMMERCE MONDIAL

## MONOGRAPHIE STATISTIQUE

(1932, VIII + 144 pp., 8vo) PRICE: 20 Liras

a rich statistical documentation on the maize trade during the period 1925 to 1932. This study, which also contains numerous diagrams, illustrates in an original form the extent to which each of the principal countries participates in the world maize trade, both as importer and as exporter. By the aid of this study the reader is able to judge rapidly and exactly, the commercial importance of any statistical data of maize production and trade.

The following is a summary of this publication.

### SUMMARY

I. — Maize production of the principal producing countries (1925 to 1932).

II. — Production of maize (1925 to 1931) and exports by quarters and commercial seasons of the principal exporting countries (1925-26 to 1931-32).

III. — Maize exports of Argentina and Rumania and total net imports of the principal importing countries by months, quarters and Argentine and Danubian or North American commercial seasons (1925-26 to 1931-32).

IV. — Maize exports of the principal exporting countries by quarters and by the Argentine and Danubian or North American commercial seasons (1925-26 to 1931-32).

V. — Net maize imports of the principal importing countries by quarters and by the Argentine and Danubian or North American commercial seasons (1925-26 to 1931-32).

VI. — Distribution of the maize exports of Argentina and Rumania according to destination as indicated in the statistics of these countries (1925 to 1930).

VII-a. — Distribution of the maize imports of each of the principal importing countries by origin as indicated in the statistics of these countries (1925 to 1931): a) Imports into each country in the different years and relative importance of Argentina and Rumania in the import trade of each country.

VII-b. — Distribution of the maize imports of each of the principal importing countries by origin as indicated in the statistics of these countries (1925 to 1931): b) Imports into the different countries in each year.

VIII. — Quantities of maize recorded by the principal importing countries as originating from each of the principal exporting countries (1925 to 1931).

IX. — Comparison between the total maize imports and the imports, originating from Argentina and Rumania, of the principal importing countries (1925 to 1931).

X. — Apparent consumption of maize in the principal importing countries (1925-26 to 1930-31).

XI. — Monthly and yearly prices of Argentine maize at Buenos Aires and at Liverpool-London and of Rumanian maize at Braila and at Hamburg; the relative importance of shipping freights in the formation of prices (1926 to 1931).



# MONTHLY BULLETIN

OF

## AGRICULTURAL ECONOMICS AND SOCIOLOGY

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No. 11

### MARKETING OF AGRICULTURAL PRODUCE

#### World Production and World Trade in Table Grapes (*Continued*).

##### ALGERIA.

Cultivation of wine grapes has been the work of monks and colonists. About the middle of last century, after vine-growing had almost completely disappeared under the long regime of Islam, vineyards were again laid out on the French model especially in the provinces of Oran and Algiers. The indigenous Mahometan population has kept aloof for the most part from vine growing, in spite of special measures of encouragement on the part of the Government. Table grape production is of more recent date and was taken up only towards the end of the century mainly in the department of Algiers and the districts near the ports. The varieties planted are those most commonly employed in France, the Chasselas, which has proved particularly prolific in the warmer climate of Algeria, yielding 50 quintals per hectare. The sirocco winds constitute a special danger for Algerian vine growing, and often destroy a large proportion of the crop.

The grapes ripen even in the deeper valleys early in July and are despatched with the early fruit and vegetables almost exclusively to markets of Marseilles, Paris and other large French towns. Smaller quantities are sent longer distances to Germany; before the war Germany took about 9 per cent. of the whole export from Algeria. As the fruit comes on the market before the actual grape season and commands a high price, table grape cultivation expanded rapidly in pre-war years. Unfortunately production statistics are not available. In the years 1901-03 the export was 37,500, in 1909-13 it was 150,000 quintals. After the war the exports declined very considerably and it is only in recent years (1927-29) that they have attained about one third of the pre-war position. In 1928 the export was 56,699 quintals, in 1929 it was 64,755 quintals, and in 1930, 89,255 quintals.

This retrograde movement is on the one hand to be attributed to damage caused by phylloxera which was introduced into Algeria in 1907. On the other hand the absorption capacity of the French market has dwindled owing to the expansion of the home production of grapes. So far new markets have not been found for the Algerian product and consequently a great part of the production must necessarily be consumed within the country. The prospects of-



ferred by the home market are not unfavourable inasmuch as the demand for fresh fruit is constantly increasing with the progressive Europeanisation of the country and the tourist traffic.

There is no import of table grapes.

## 2. — North West Europe.

### NETHERLANDS.

The earliest cultivation of table grapes in the Netherlands is said to date back to the 17th century. In the South of the Province of South Holland, the part known as "Westland", outdoor cultivation was attempted, and, thanks to the mild climate, the ripening of table grapes proved practicable. In the course of the further development of the country table grape cultivation has twice changed its form. Since the middle of last century the open air production of table grapes, the yields from which were inadequate as well as uncertain, was improved and grapes were grown after the French (Thoméry) model on walls as espalier vines. This change of method resulted in a much larger production and in improvement in quality. The ripening process was hastened by the more intensive irradiation, so that the espalier grapes could be placed upon the market earlier than the ordinary grapes. By 1930 the espalier cultivation had reached its highest point. In Westland, which was always and still is the centre of grape cultivation, the wall area covered with espalier vines was at that time nearly 400,000 square metres. The quantities gathered however were not large enough to give rise to an export of table grapes. The foundations of an export trade were laid by the further change over to growing under glass, as in that way the cultivation became even less dependent on weather conditions and an earlier delivery on the market was ensured. According to the first official statistics of market gardening published in 1904, the area covered by the glass houses in which vines were grown was 259,722 square metres, in 1912 the area had increased to 673,889, and in 1925 to approximately 1,150,000 square metres. Only about 20 per cent. of the glasshouses are equipped with heating apparatus; the remainder are the so-called cold houses. At the present time the Netherlands stand first among the countries in regard to glasshouse production of table grapes.

The typical market organisation built up for the trade in vegetables was adopted from the first in the trade in grapes. After the gathering when for the time being the markets are glutted grapes can be kept in cool storage till better prices are once more offered. The most important depot for consignment is Naaldwijk. The earliest kind is the Gros Colman grown in warm houses and placed on the market at the beginning of July. In the cold houses the principal kind grown is the black Frankenthal, which ripens in August, and the black Alicante, ripening later still, and suitable also for placing in cool storage, and exporting in February. Other varieties, such as the Gros Maroc, are of less importance.

A very large proportion of grape production is sent abroad but as statistics of production are not available it is difficult to determine the exact proportion.

The course of the export trade was as follows :

1905 . . . . .	144 quintals	1927 . . . . .	41,160 quintals
1910 . . . . .	1,660 »	1928 . . . . .	53,723 »
1914 . . . . .	11,660 »	1929 . . . . .	65,696 »
1924 . . . . .	23,373 »	1930 . . . . .	74,100 »

Dutch grapes enter trade as luxury fruit, not only because they reach the market in part out of season, but also on account of their remarkably uniform quality, their excellent grading, packing and setting out. The principal customers are Great Britain and Germany, which take over 90 per cent. of the whole exports. Sweden and Denmark import only small quantities although to an increasing extent. In the last few years grapes have also been despatched to the Netherlands Indies, although at first only experimentally. Owing to the success of this undertaking, the table grape trade and the steamship companies concerned in the despatch to the East Indies are preparing for a larger export in the near future.

*Export of Table Grapes from the Netherlands.*

YEAR	In 1000 florins	In 100 quintals				
		TOTAL	Including exports to —			
			Denmark	Germany	Great Britain	Sweden
Average 1911-13 . . . . .	135	30	—	15	12	
1928 . . . . .	3,220	537	10	250	248	22
1929 . . . . .	3,536	657	11	254	354	28
1930 . . . . .	3,800	741	21	315	370	25

The Netherlands import small quantities of table grapes only, mainly from Portugal. In contrast to the Dutch grapes the imported fruit is of inferior quality.

*Import of Table Grapes to the Netherlands.*

YEAR	In 1000 florins	In 100 quintals		
		TOTAL	Including import from	
			Belgium	Portugal
Average 1911-13 . . . . .	105	31	13	5
1928 . . . . .	112	31	4	15
1929 . . . . .	110	35	3	20
1930 . . . . .	65	13	2	6

## BELGIUM.

The comparatively unimportant open air cultivation of the vine in Maastal supplies wine grapes only. Table grapes are almost exclusively grown under glass. The development of this branch of production dates back to the middle of last century. The first glasshouses were built on the English model at Hoeylaert, a small place near Brussels, which still remains the real centre of the cultivation of the vine. The example was soon followed by other neighbouring places, among them in particular Overysche and La Hulpe. The grapes are sent to the Brussels fruit market and enter trade as Brussels grapes; the well known glasshouse varieties are grown, Frankenthaler, Gros Colman, Black Alicante and others.

In contrast to the Netherlands, grapes in Belgium, with few exceptions, can be grown only in hot houses. This makes it possible to place them on sale in those months in which the out door grapes and also the Dutch glasshouse fruit have already disappeared from the market. Before the overseas grapes were brought to Europe, the Belgian owners of hothouses had the monopoly in the months falling outside the proper table grape season. This circumstance favoured the extension of vine cultivation in Belgium, although there is only a limited market for a fruit that is so definitely a luxury product. A large scale extension of the cultivation under glass has been effected, particularly in the post war years. In 1915 there were about 15,000 vine houses, while at the present time there are nearly 25,000 with a yearly production amounting to from 40,000 to 50,000 quintals.

With the extension of production an increasing proportion of the fruit has been exported. About 1890 only 1000 quintals were exported, but the export had risen in 1911-13 to 7700 quintals, and in 1929 to 31,000 quintals. In 1930 a slight decline to 27,900 quintals is to be noted. About 85 per cent. of the exports go to Great Britain while Germany stands next with about 5 per cent. In contrast to England the exports to Germany have not risen as compared with the pre-war years.

*Export of Table Grapes from Belgium.*

YEAR	In 1000 francs	In 100 quintals				
		TOTAL	including export to —			
			Germany	Great Britain	Nether- lands	United States
1911-13 . . . . .	2,170	77	14	51	5	5
1928 . . . . .	50,165	290	19	248	5	8
1929 . . . . .	60,384	310	15	266	—	—
1930 . . . . .	49,420	279	13	230	—	—

As happens with the Netherlands, Belgium also imports to meet the internal demand considerable quantities of cheap French table grapes.

*Import of Table Grapes into Belgium.*

YEAR	In 1000 francs	In 100 quintals	
		TOTAL	Including import from:— France
1911-13 . . . . .	69	5	4
1928 . . . . .	2,307	49	48
1929 . . . . .	3,450	82	81
1930 . . . . .	2,632	56	53

3. — South East Europe and Russia.

HUNGARY.

Before the war the production was almost exclusively of wine grapes. With good markets at home and abroad the industry was in a prosperous condition. By the Treaty of Trianon Hungary lost nearly two thirds of its territorial area and population, but retained two thirds of the vineyards, so that the proportion of area under vine cultivation to the whole area is now twice as much as in pre-war times. As the home market can only now absorb a small part of the production of wine while the possibilities of marketing the product abroad are reduced, the encouragement of the production and export of table grapes became a necessity, since about one tenth of the population gain their livelihood by vine cultivation. Up to the present time however it has not proved possible to find the funds which would be required by the growers for bringing some part of their vineyards under the improved cultivation necessary for the table grape varieties or for laying out of new vineyards. Consequently little has been done beyond bringing the more suitable kinds of wine grapes to market as fresh fruit. The only large scale cultivation of table grapes, properly so called, is in the neighbourhood of the large towns. The most important is the production in the environs of Budapest, or in the neighbourhood of Kecskement, Gyöngyös and Pecs. In these parts the well known varieties, Chasselas, Muscatella, and also local varieties such as Passatutti are gathered.

Export of table grapes is mainly to the nearby markets of Austria and Poland. Although the market conditions for the Hungarian growers have never been satisfactory in consequence of the causes mentioned, the exports rose rapidly after 1927, in which year the total was only 6000 quintals; in 1930 an export figure of 177,000 quintals was reached. This rise in exports was due to the forcing of the product on the Czechoslovakian and especially on the German market.

*Export of Table Grapes from Hungary.*

YEAR	In 1000 pengő	In 100 quintals				
		TOTAL	including exports to:—			
			Germany	Austria	Poland	Czechoslovakia
1928 . . . . .	1,672	223	17	100	61	46
1929 . . . . .	4,131	743	55	367	150	164
1930 . . . . .	6,174	1,767	719	622	232	164

Hungary imports table grapes on a small scale only.

*Import of Table Grapes into Hungary*

YEAR	In 1000 pengő	in 100 quintals		
		TOTAL	including imports from:—	
			Italy	Spain
1928 . . . . .	77	5	1	4
1929 . . . . .	49	4	—	3
1930 . . . . .	56	3	—	—

## YUGOSLAVIA.

The cultivation is predominantly that of wine grapes. Table grape production had already been established in the neighbourhood of Smederevo for the supply of the Belgrade market, and as a result of the great difficulties attending the sale of wines it has been introduced in other localities, as for instance in Novisad, a district very favourably situated for the trade with the north. The

*Export of Table Grapes from Yugoslavia.*

YEAR	In 1000 dinars	In 100 quintals							
		TOTAL	including export to:—						
			Germany	Greece	Italy	Austria	Poland	Czechoslovakia	Hungary
1928 . . . . .	9,295	184	4	—	—	124	—	41	5
1929 . . . . .	8,789	182	—	—	12	158	—	2	2
1930 . . . . .	11,410	397	16	2	—	313	11	26	25

export has developed in connection with the expansion in the export trade in other kinds of fruit. In 1926 the grape export was approximately 2600 quintals, and in 1930 about 40,000 quintals were exported. Grapes take the third place after dried plums and apples in the export of fruit. The greater proportion of the grapes go to Vienna, which is reached in 30 hours by the fast fruit expresses; a smaller proportion goes to Czechoslovakia.

# BULGARIA.

Increased efforts were made after the war to extend vine cultivation, in view of the loss of territory and the diminishing profits on cereal cultivation, and in consequence the wine growing industry has considerably expanded. The area of the vineyards has since 1914 doubled. Although at the present time the production of wine grapes takes the first place, during the last few years, in consequence of the difficulty attending the sale of wines, table grape growing has been on the increase. On the whole the climate is favourable to this production. The varieties chiefly planted, the Afus Ali, Dimiat and Muscat, are remarkable for the length of the clusters, the size of the berries and high sugar content. The ripening season of the grapes is fairly long; it begins at the beginning of August and lasts till the end of November. The production is concentrated in the following places: Gorna Orehovitza-Leskovetz, Pavlikeni, Pleven, Russe, Preslav and Schumen.

Table grapes were exported for the first time in 1926, and the export figures have risen subsequently from year to year. The exports from 1926 to 1930 were as follows (in 1000 quintals):

1926 . . . . .	1.6	1929 . . . . .	21.1
1927 . . . . .	5.6	1930 . . . . .	27.7
1928 . . . . .	9.5		

Bulgarian table grapes go mainly to Austria (Vienna) and Germany (Berlin, Leipzig, Dresden and Hamburg).

## *Export of Table Grapes from Bulgaria.*

YEAR	In 1000 levas	In 100 quintals			
		TOTAL	including export to:—		
			Germany	Austria	Czecho-slovakia
1928 . . . . .	13,626	95	0	92	3
1929 . . . . .	31,760	211	29	177	3
1930 . . . . .	—	277	—	—	—

In the opinion of the exporters the rise in the export figures would have been much larger, if the proper rolling stock (refrigerator trucks) had been available, and if it had been possible to speed up the transport arrangements, the time now taken in transit from Sofia to Berlin being 5 to 10 days. The trade organisation methods are also not yet adequate. Frequently with a view to early placing on the market, the grapes are picked unripe or during rain, badly sorted and packed. Accordingly the Export Institute established by the Bulgarian government in 1930 has intervened and has published strict regulations dealing with the grading and packing of table grapes for export, with a view to achieving an increased marketability of the product.

There was a small import of table grapes before the war, but this has now disappeared.

#### RUMANIA.

Before the war Rumania was a grape importing country. The average for the period 1929-13 was an import of 18,600 quintals; in 1912 the import was 31,600 quintals to the value of 910,000 *lei*. No export took place. After the world war the position of Rumania was fundamentally altered. The annexation of Bessarabia was the main factor in bringing about the transition from importation to export of a surplus. A small proportion only of the whole area under vine cultivation is used for table grape production. The production is however greater than appears from the export figures, as only a part is exported. Owing to the absence of statistical data the production figures cannot be given. There was great fluctuation in the volume of the export till quite lately, due partly to the varying market capacity in Poland, the destination of nearly the whole of the Rumanian export, and partly to the very defective initial organisation of the export trade. In the last few years however a more uniform development of the export is noticeable, the figures (in 100 quintals) being as follows:

1921 . . . . .	0	1926 . . . . .	6
1922 . . . . .	5	1927 . . . . .	48
1923 . . . . .	43	1928 . . . . .	86
1924 . . . . .	204	1929 . . . . .	135
1925 . . . . .	92	1930 . . . . .	384

In 1930 the Rumanian Export Institute also issued regulations as regards quality and packing of grapes for export, with a view to placing on the Central European markets goods to which no exception can be taken. The transports directed abroad are under the control of an official of the Export Institute, and at the same time, to avoid delay in delivery, are under the supervision of the Customs authorities.

The following figures show that up to 1929 the Central European market was of no importance.

*Export of Table Grapes from Rumania.*

YEAR	In 1000 lei	In 100 quintals		
		TOTAL	including export to —	
			Germany	Poland
1927 . . . . .	3,576	48	25	23
1928 . . . . .	—	86	—	—
1929 . . . . .	—	135	—	—
1930 . . . . .	55,011	384	31	349

There is no import of table grapes worth mention.

## GREECE.

The table grape trade was in pre-war times only of subsidiary importance in the extensive vine cultivation of Greece. By far the larger proportion of the grapes were used for wine or dried. By the acquisition of Crete (in 1913) where table grapes were grown on a large scale, this branch of production underwent expansion which for the first time made possible a somewhat large export of table grapes from Greece.

The export figures rose after the war, as cultivation of the vine in Greece became in part directed towards the production of table grapes. The international crisis in regard to sale of wines was felt the more acutely in Greece as there had been larger grape harvests in consequence of more heavy manuring and in spite of a slight diminution in the areas under cultivation, while on the other hand the export of Greek wines became a matter of difficulty.

There was no serious difficulty, however, in stressing the production of table grapes, as the greater proportion of the grapes which had heretofore found their way to the wine press were also suitable for sale as table grapes. All that was necessary was that the harvesting methods should be adapted to the new objective, a closer attention should be given to the grading, the transport arrangements improved and the appropriate trade organisation established. A re-adaptation on these lines took place in all the provinces of Greece. As in pre-war times, Crete stands at the head in respect of production, followed by Central Greece and Thessaly. In Crete the variety Heracleion is mainly cultivated, in Greece proper the very early Depadiki, which is ready for shipping by the middle of July, the Sultanina, Rasaki and some later varieties. Grapes are packed for despatch in boxes.

There has been a rapid rise in exports, the figures from 1921 to 1930 being as follows (in 1000 quintals):

1921 . . . . .	16	1926 . . . . .	53
1922 . . . . .	19	1927 . . . . .	51
1932 . . . . .	35	1928 . . . . .	59
1924 . . . . .	31	1929 . . . . .	82
1925 . . . . .	62	1930 . . . . .	73



The exports amount to nearly one fourth of the total production and have been up to the present almost exclusively directed to Egypt.

*Export of Table Grapes from Greece and Crete.*

YEAR	In 100 drachmas	In 100 quintals			
		TOTAL	including export to:—		
			Austria	Egypt	Tripoli
1911 . . . . .	(1) 2	1	—	—	—
1911 . . . . .	(2) 101	59	—	78	—
1912 . . . . .	(1) 6	3	2	—	—
1912 . . . . .	(2) 86	61	6	68	1
1913 . . . . .	(1) 33	17	17	0	0
1928 . . . . .	14,744	591	0	591	0
1929 . . . . .	32,163	921	—	816	—
1930 . . . . .	33,556	730	—	685	—

(1) Greece in 10,000 oka. — (2) Crete.

There have been no imports of grapes into Greece either before or after the war.

Until a few years ago the Greek grapes encountered no serious competition on the Egyptian market. Quite recently Palestine and Syria, in both of which there has been a considerable expansion of table grape production, have entered the Egyptian market which lies so conveniently near, and find purchasers without difficulty for their excellent quality products which are offered at low prices. The Greek Government has accordingly been induced to encourage export to the European markets, and in particular by an adjustment of the transport question. Cheap freight rates are being arranged on the Greek railways for table grapes for export. A larger number of refrigerator trucks have been ordered expressly for the transport of table grapes to Central Europe, and are already partly in use. Vessels fitted with refrigerator compartments are on order for the Crete-Salonica steamship service, the intention being to forward the grapes from Salonica by road to Vienna and Munich. The cool chamber steamship service is to be extended to London. With a view to the capturing of new markets, the Greek Government has offered export premiums on grapes intended for West or Central Europe, the grant of premiums being associated with a control of grading and packing conditions.

#### RUSSIA.

Within the wide bounds of Russia are certain districts exceptionally well suited for the cultivation of the vine. The grapes of the Crimea, Transcaucasia and Turkestan are especially renowned. In pre-war times Bessarabia was included

among these areas. At that period Russian grapes were chiefly utilised for internal consumption. Bessarabian grapes went mainly to Warsaw and the other larger towns of Poland. The Crimean grapes were for the most part consumed in South Russia, while the Asiatic product either found its way to the local markets, including some of considerable importance, or reached the markets of Petersburg or Moscow. The great distances, however, separating the Asiatic producing areas from these latter markets, together with the unsatisfactory transport system, made this inland trade in table grapes extremely difficult, so that it was a much simpler arrangement for the fruit trade in Petersburg or Moscow to organise import of table grapes from Spain through Germany. The consequence was that in the pre-war years there was an excess of imports amounting on an average of the years 1909-13 to 15,406 quintals, the maximum being considerably higher.

After the war the Russian Foreign Trade Commissariat was unable to release currency for the table grape imports, quite apart from the fact that the former class of purchasers no longer existed. On the other hand, the need of obtaining foreign money acted as a powerful inducement for directing the internal production of table grapes into export channels. Laying out of new vineyards, improvement in methods of cultivation, grouping of small vineyards into large areas under State control, all were to contribute to the increase of production. In Sevastopol and in Poti (Caucasus) cool houses were built for fruit, mainly for apples but also with the object of receiving table grapes. The "Plodoexport", which unites all organisations dealing with the fruit and vegetable trade, requires the trade and transport methods to be systematically organised with a view to increased capacity for export.

In 1929 there were exported for the first time 11,500 quintals to a value of 290,000 roubles, and in 1930 the export was of 5600 quintals to the value of 106,000 roubles. The Russian statistics do not distinguish the destinations of the grape exports, but, according to the statistics of the importing countries, Germany took from 2400 to 2500 quintals, while the remainder was divided between Poland and other countries bordering on Russia. The consignments of grapes reached Germany well graded and in good condition, and were suitable, like those of Spanish origin, for storage in cool chambers.

*Export of Table Grapes from the U. S. S. R.*

	in 1000 roubles	TOTAL in 100 quintals
Year 1929 . . . . .	290	115
» 1930 . . . . .	106	56

*(to be continued)*

Prof Dr. KURT RITTER and Dr. MARTIN GUTTFELD

## ECONOMIC AND SOCIAL CONDITIONS OF THE AGRICULTURAL CLASSES

### Rural Housing (*Concluded*).

In ESTONIA since the war each successive year has seen an increase in the construction of rural dwelling houses, the fact being acknowledged that the rural exodus which is causing considerable anxiety is to a great extent attributable to the general insufficiency of housing accommodation in the country.

The encouragement of the building of rural dwellings is contemplated by a law enacted in 1926, which prescribes the allocation in the Budget of the sums required for granting building loans.

The following statement shows the sums granted for this purpose in succeeding years.—

Year	Amount (crowns)
1926-27 . . . . .	100,000
1927-28 . . . . .	
1928-29 . . . . .	50,000
1929-30 . . . . .	300,000
1930-31 . . . . .	137,425
1931-32 . . . . .	100,000

The loans were almost exclusively used to build cottages, or small houses with a small piece of land attached, for artisans, fishermen, farm workers, foresters or gardeners

According to the regulations issued by the Government for the carrying out of this law, the loans pay an interest of two per cent and are amortisable in 30 or 41 years

The amount of the different loans depends on the building materials employed, for wooden buildings the loans are up to 60 per cent of the building costs, for buildings in stone or pisé they go up to 80 per cent

The agrarian reform has had a marked effect on the aggregate construction of rural dwellings, nearly 24,000 new dwellings having been erected in the carrying out of the reform

The funds required for making these loans were supplied up to 1929 by the Treasury and in the following years by the "Land Settlement Capital Fund."

Further encouragement to this building is given by the State Agricultural Bank which arranges mortgage loans for the purpose up to 60 per cent. of the estimated value of the real property mortgaged.

Building of dwelling houses with the aid of State loans is made conditional on the fulfilment of certain minima requirements both technical and hygienic.

According to the building regulations the ceiling height of the rooms must be at least 245 cm., the proportion between the square measure of the windows and that of the flooring must be at least 1 to 10, the privy if within the house must be furnished with a ventilating shaft, etc. Generally speaking the building is carried out in accordance with the relatively simple life of the country side.

Only in isolated cases is water laid on, and since there are no electric supply depots furnishing long distance current, electric lighting is found only in the immediate neighbourhood of the electricity stations.

In the new houses the water supply is often brought from deep wells by pipes. Usually however use is made of ordinary wells which can be covered and lined with stone, wood or circular slabs of cement and which are often fitted with an iron pump.

Only rarely are found houses with bathrooms, as in the country the traditional practice is still observed of separately built stoves with an equipment for inducing sweating.

An idea of the measurements of these houses can be obtained from the 1929 census.

In the 129,802 cases included in the census the basic area of the houses grouped according to size of farms was as follows:

size class	Number of dwellings included in the census	Average area sq. metres	Average area per inhabitant
1- 5 ha . . . . .	20,815	57	15
5- 10 . . . . .	19,672	60	14
10- 20 " . . . . .	33,048	69	14
20- 30 " . . . . .	24,005	79	15
30- 50 " . . . . .	23,189	89	15
50-100 " . . . . .	7,619	106	18
100 ha . . . . .	1,454	224	41

In the IRISH FREE STATE, in spite of various difficulties, progress has been made in rural housing especially during recent years, and at the present time the Government is engaged in the study of schemes for more complete and practical action (1).

In the rural districts the usual type of dwelling is a three-roomed house, while the typical rural family consists of five persons, although 52.5 per cent of rural families consist of six persons or more.

A recent official report shows that the former rural dwelling with damp clay floor, a thatched roof always needing repair, ill built walls, small fixed windows admitting very little light and almost no air, inhabited by too large

(1) S. J. BRANDENBURG: Housing Progress in the Irish Free State. *The Journal of Land and Public Utility Economics*, Vol. VIII, No. 1. Chicago, February 1932.

a number of persons, situated in a hollow for shelter from the storms often with an open drain or pool of liquid manure in front of the house, is replaced by a new type of building, built solidly and mainly of masonry, situated with due regard to health. This dwelling has a good appearance, the roof is of slate, the windows can open and are large enough to give plenty of light to all the rooms. It is obvious that this new system will lead to improvements in health conditions, protection against disease while contributing to the general welfare.

In the last fifty years rural housing improvement has been a matter of concern to the Government British and Irish. The present Government has paid special attention to providing farm workers with livable houses and with half an acre to an acre of land. These have been erected under the special supervision of the local sanitary authorities. State grants and loans on favourable terms have enabled the local authorities to build and to let cottages at low rents (on an average, 1s. 3d. per week for cottage and garden). Up to 1930 loans were made by the State for a value nearly approaching £7,270,000, nearly half being granted before 1906. Such loans were to be repaid with a period of from 30 to 50 years, in instalments, principal and interest together, the rate varying from 3½ and 4½. By the law of 1906, further loans were granted subsequently, repayable within a period of 68 years and a half, at the rate of 3¼ per cent, principal and interest together. Since the beginning of this activity in 1883, more than 42,000 cottages have been built.

General encouragement has been given to rural building by successive laws approved since 1924. Under these measures grants have been made to private persons who wish to build houses in the rural regions. In accordance with this recent programme more than 9000 houses have been erected representing for the State an average subsidy of £66 per house. The present Government of the Irish Free State usually makes a grant to the local authorities of £50 per cottage, or nearly one sixth of the cost of building.

In the Congested Districts zone, the Housing Act of 1929 makes provision for State grants: for erection or improvement of a house, respectively £80 and £40, for construction or renewal of a poultry house or a piggery, respectively £5 and £2 10s.

With the approval of the Minister for Lands and Fishery and on conditions established by him, the State may also grant loans, the total amount of which does not exceed the total of previous grants.

The grants are outright gifts; and the loans are made on terms so favourable that for half or even three quarters of their normal amount they may in reality be considered as being gifts. They are repayable in 68 instalments, calculated according to the borrower's capacity for payment, for example, a debt of £100 may be extinguished in a period of 68 annual payments of £1 10s, in this way only about £2 more than the principal is repaid.

Peasant housing conditions in GREECE, although not presenting any very abnormal features, cannot be considered as completely satisfactory.

There are two common types of dwelling. In the first place there is the house on the ground level, consisting of one or two rooms, without stabling

or storehouse. In this case the hygienic conditions leave much to be desired as human beings and animals are living together or side by side. This is not very serious as there is not much live stock kept as a rule in Greece. Usually it is only a question of one or two goats and the mild climate allows the peasant to turn these loose in the open air for the greater part of the year. On the other hand, in the more populous parts the houses are more cared for. Usually they are built in two floors, the ground floor being used as stabling and storeplace, while the upper floor forms the family dwelling. Although better, this type is not altogether satisfactory for the humans, as they have to breathe the tainted air from the stables.

In some parts of Thessaly and Epirus thatched huts are found here and there. Latterly when provision had to be made for the refugee peasants, State grants of land and houses were given. The houses built usually consisted of two rooms with or without stabling and storeplace. At first four-roomed houses were also built but very rarely. A special type was built, especially in Macedonia, for fishermen, silkworm breeders, tobacco growers, according to the requirements of their occupation. All these houses have also some metres of land which may be used as a garden. They are built in stone, bricks or cement. In some cases there is an earth floor and the tenants are expected to cover it with a wooden flooring. The number of these houses assigned to the refugees was 129,934, out of which 52,561 were built by the Commission for the settlement of the refugees, and 13,487 by the State. In addition 63,886 houses abandoned by Turks and exchanged Bulgarians were assigned to the refugees.

On account of the serious internal problems that have been engaging attention since the war, there has not yet been the opportunity of formulating a State programme of improvement of rural housing. In these last few years the State has made great efforts for the improvement of the economic and social conditions of the peasants, an improvement which was felt to be a matter of urgency. The agrarian reform was undertaken, and 120,149 share tenants and landless cultivators were transformed into small holders, and 135,265 refugee farm families were placed. As was natural the detailed work of carrying out these schemes and the very large expenditure necessary absorbed all the attention of the State and made such inroads on its revenues that it proved essential to postpone to a later date questions the importance of which was fully recognised.

In HUNGARY, where a very large proportion of the population is engaged in agricultural work, the great importance of a sound hygiene for the rural population has long been recognised.

During the last twenty years preceding the war as well as quite recently the hygiene of rural housing in Hungary has been developed on continuous scientific lines. Although, however, the majority of rural dwellings, especially the newly built houses, conform fairly exactly to hygienic requirements, it cannot be denied that there is still much to be accomplished in this direction.

In the Transdanubian regions and partly also in the mountainous region of the North, the population live in small towns and in villages; in the plain on the other hand large villages and large towns are found. A considerable

part of the population of these regions (the Great Plain of Hungary, *Alföld*) does not live packed together in towns but is dispersed in the surrounding areas, on farms often distant several kilometres from the centre. There are some disadvantageous consequences of this dispersion as sanitary and hygienic assistance is thus rendered extremely difficult. Owing to the composition of the soil, which crumbles very readily on the *Alföld*, and to the long continued droughts of summer, the air in the villages is filled with dust (1).

The rural dwellings consist only of a groundfloor; they lie along the roads which are very wide, and are often separated by gardens or other open spaces.

In the country districts, the housing accommodation varies greatly according to the economic conditions, the crops grown and the local circumstances. In parts where there are no quarries or brickworks, and everywhere in the poorest villages, the houses are mainly built of clay, that is, either with sun-dried bricks, or merely with clay pressed in a rough mould of pieces of wood. The base of such houses, especially the newer ones, is usually constructed of stone or bricks. At the present time the authorities are proposing also to isolate the walls by brick or stone supports. In many places there are still rough shelters constructed of clay the ventilation of which is very defective.

The widely extending villages of the plain are often without any drainage system. A night-soil removal system exists in the larger and better organised villages; elsewhere the material is mixed with the stable manure and spread on the gardens or fields. In this way infection of the soil readily takes place, and since the level of the underground waters is frequently high, the result is that the water from the ordinary wells in the villages is with few exceptions very bad. In some villages there is nothing but a few shallow pools of water. In the *Alföld* region drinking water can only be obtained by sinking deep, or artesian, wells. There are more than 3000 artesian wells in existence, with an average depth of 200 metres, and an output of from 100 to 150 litres of water per minute each.

Since 1901 State encouragement has been given to building of houses for agricultural workers, and subsidies have been given for the purpose. The total amount of the grants made by the State during the five first years was 290,239 crowns. From 1906 a credit was placed on the Budget each year for this purpose, the amount being 200,000 crowns in 1906 and 250,000 crowns in 1907. Subsequently Law XLVI of 1907 was passed authorising the Ministry of Agriculture to promise an annual sum of 300,000 crowns for purchase of sites for the construction of houses for agricultural workers. This sum was subsequently increased with the result that in the period from 1909 to 1920-21 it amounted to 500,000 crowns. After 1921, at the time of the inflation, sums were shown on the budgets of the State as also paid for this purpose for a period up to the financial year 1926-27 inclusive. The activity of the State was, after 1927-28, replaced by that of the Association for Rural Housing (*Falusi Kislakásépítő Akció*), a co-operative society formed with State financial assistance, which had

(1) See SCHOLTZ C.: Le service sanitaire en Hongrie. Budapest, 1928.

already begun operations in 1925. At the end of 1930, the number of persons who had obtained loans from this Association for the purchase of material to be used for building their own houses was 31,661, and the credits thus granted amounted to 43,668,920 crowns.

In the regulation relating to the buildings erected in connection with the agrarian reform which was introduced after the war, attention has been paid, so far as possible, to hygienic requirements.

The recent intervention of the Hungarian Chambers of Agriculture for the improvement of the hygienic conditions of the farming classes is also worthy of mention. One of the most striking results is that the accommodation intended for farm servants and other persons in service in rural districts is becoming rapidly more satisfactory from the hygienic standpoint.

In the booklet entitled "Les habitations rurales en Europe" published by the International Institute of Agriculture, there is an account of the principal new departures taken during recent years in ITALY in reference to rural housing; among these may be noted two enquiries of special importance. One of these has been made by the *Istituto Nazionale di Economia Agraria* and deals with the development of rural building in the various regions, and the other which has been carried out by the *Confederazione Nazionale dei Sindacati Fascisti dell'Agricoltura* and deals with the general living conditions of the peasants (*contadini*) and the farm workers (*braccianti*), opens with the detailed examination of different aspects of the rural housing problem. In addition mention may be made of the opening of a number of prize competitions for model rural dwellings corresponding to farms of differing size and position, or to different farming systems (1), and, more recently, the opening of a rural housing and model farm exhibition, organised under the auspices of the Ministry of Agriculture and Forests on the occasion of the Second "Fiera del Levante" (or exhibition of the products of South-East Italy) which was held at Bari.

In regard to the State activity, there are several measures in existence, contained in different laws (2), for encouragement of rural building; in particular the law of 24 December 1928, No. 3134, on integral land improvement is intended to ensure the full development of rural building operations. It prescribes the building of large villages (*borgate rurali*) and of isolated rural buildings, towards the construction of which a contribution is made by the State varying from 10 to 30 per cent. of the cost price.

By a recent measure (Royal Decree No. 131 of 20 March 1930), the materials employed in the construction and repair of rural buildings have been declared

(1) "Progetti per costruzioni di case coloniche sotto gli auspici del Ministero dell'agricoltura e delle foreste, a cura della Cattedra Ambulante di Agricoltura per la provincia di Perugia." Perugia 1930. — GARAVINI Dott. Giorgio: "I migliori fabbricati rurali recentemente costruiti in provincia di Siena", Cattedra Ambulante di Agricoltura per la provincia di Siena, Siena. 1930.

(2) See CAMANNI VINCENZO: "La politica edilizia rurale in Italia." *L'Assistenza Sociale Agricola*, Nos. 1 and 2, Rome, January and February, 1932-X. — FONTANA ATTILIO: L'edilizia rurale nelle provvidenze legislative. *Rivista di Politica Economica*, No. 4. Rome, 30 April 1932-X.



exempt from the tax on commodities consumed (*imposta di consumo*). This exemption extends to all buildings or parts of buildings, including their accessories, when belonging to the owner of the lands on which they are being placed, and utilised as :

(a) dwellings for land workers, foremen, overseers, persons in charge of live stock, etc., directing or effectively assisting day labourers in the accomplishment of their daily work ; as well as dwellings for stewards and other persons responsible for live stock, etc.;

(b) stabling for work animals or grazing stock ;

(c) places for storage and first manipulation of the agricultural products of these same lands, or for storage and safe-keeping of machines and implements used in the cultivation of the soil.

The development of rural building on the Roman Campagna is remarkable. For some time past the reclamation and settlement by the owners themselves of a zone of nearly 200,000 hectares has been encouraged and facilitated in various ways by special legislation relating to this region. During the period 1926-1930 land reclamation schemes to the number of 219 have been drawn up and rendered compulsory for the land owners. These schemes relate to a total area of 81,000 hectares, on which have been erected farm settlers' dwellings, stabling, and silos. In addition farm roads have been made and plant installed for the supply of drinking water and for irrigation. During these five years 273 loans have been made, for the financing of these operations, up to a total amount of 243 million liras.

In the Roman Campagna the number of the rural dwellings which in 1922 was 8,830 rose to 14,165 in 1927 and to 19,412 in 1930.

Mention should also be made of the establishment in this zone of villages (*borgate rurali*). The building of these was begun in 1913 and at the present time there are nine in existence, consisting of small houses with a minimum of half a hectare of land each, and normally inhabited by cultivators and artisans who are engaged especially in agricultural industries. Nearly all these villages have a church, a school, a post office and a sanitary station.

In addition, as a result of the Royal Decree of 28 November 1928, new types of agricultural villages are in course of being constructed in Italy, the following principles being followed in their formation. Whenever operations such as land reclamation, land development operations, regulation of water courses, construction of ordinary roads or railways requiring the employment of a large body of labour, have to be carried out in depopulated and unhealthy localities, it is considered advisable to give a certain stable character to the dwellings intended for the workers. In such a case they will have to be so constructed that they can easily be transformed, as soon as the work is accomplished, into rural villages which may accommodate small farming families. Any scheme for the foundation of villages must also include estimates of the expenditure for the supply of drinking water, for drainage, for mechanical means of protection against malaria, for the church, the school, the medical station, as well as for the provision of a piece of land to be used for vegetable and fruit growing to the extent of about one third of a hectare for each family. In Sardinia, the

“Mussolini Village” presents a typical example of a land settlement of this kind carried out by workers coming from other regions of Italy.

Special mention should be made of the activity in regard to rural building displayed by the *Opera Nazionale Combattenti* (National Service-Men's Institute) which is a semi-official institution of a corporate character and self-governing, placed under the supervision of the Head of the Government. The object of this institution is to contribute to the economic development of Italy, with special attention to land development operations and the development of medium and small ownership, so as to increase production and to make possible the permanent existence of a more numerous population in the rural localities.

The *Opera Nazionale Combattenti* was founded in 1919 with a capital of 300 million liras: it has real estate of its own, consisting of lands acquired by the ordinary forms, lands which have been transferred to it in virtue of special legislation and lands which were formerly Crown property and which the Crown has granted to the *Opera*.

For the due prosecution of its activities, the *Opera* is empowered by law to demand the transfer to its ownership of lands, whoever may be the owner, when such is subject to land improvement obligations or seems likely to undergo land development on a large scale or industrial utilisations connected with the agricultural activity of the *Opera*, or when any such property is required for the construction of large villages or centres of land settlement. It may in addition demand the assignment in emphyteusis or on long lease of rural lands belonging to the State or to other public bodies, when it is required to utilise these lands to serve its own purposes.

Lands thus becoming an integral part of the real estate of this institution are subjected to large scale works of land drainage and cultivation improvements.

In regard to land drainage improvements and forest drainage schemes, the land reclamation activity of the *Opera Nazionale Combattenti* extends at the present time over an area of more than 450,000 hectares. In respect of development of agricultural lands, it extends over a territory of 41,472 hectares, including the zone of the “Agro Pontino” or Pontine Marshes, where land development operations have been accomplished on a large scale during the last few months. According to the development scheme established, more than 10,000 hectares of land in this zone have been in the course of 1932 transformed into farms including 520 rural dwellings which were in October ready to receive the same number of farming families.

In the construction of houses for farm settlers, the principle of the *Opera* is to adopt so far as possible the type of house most common in the region making any modifications or improvements that seem advisable so that the new dwellings may fully meet the requirements of a modern farm undertaking.

It is clear that the *Opera*, in forming new cultivation units, does not merely concern itself with the technical aspects of farming, but that it equally takes account of the environmental and hygienic conditions of the population living in the regions subjected to land drainage and irrigation operations and on the farm lands coming under its activities. Great attention is given to the construction of rural buildings in strict accordance with modern hygienic requirements.

Moreover, with the object of securing a better organisation of medical and surgical services, and more especially those providing prophylactic treatment against malaria, for the areas wherein land drainage and land development operations are projected, the *Opera Nazionale* has come to a special agreement with the Italian Red Cross.

Under this agreement, whenever it is considered advisable, the Red Cross makes provision for the establishment of a regular medical station with small infirmary and doctor in the reclaimed regions and in the farm lands dependent on the *Opera*.

Another agreement has been made between the *Opera* and the National Institute for anti-malarial sanitation of the Pontine Marshes, which is in charge of the sanitary service and the anti-malarial prophylactic measures as well as the mosquito campaign in the zones belonging to the *Opera*.

There are 949 houses for farm workers on the farm lands belonging to the *Opera*. To this figure there should be added the 520 houses already constructed in the zone of the Pontine Marshes.

The rural dwellings to be found on the farm lands of the *Opera Nazionale Combattenti* are usually built in two stories: ground floor and upper floor; there are in addition sheds for stock, storeplaces and other buildings differently arranged according to the needs of the farm to which the house belongs. As a general rule, one rural dwelling serves for one family, exceptionally for two or more, as may be seen on the farm of S. Paolo d'Argon (Bergamo) where the rural dwellings have been by tradition built to accommodate a fair number of families, even as many as twelve.

In this connection it should be added that the *Opera* has also made provision for the foundation of villages properly equipped with the essential services. More precisely these are: "Borgata rurale di San Cesareo" (Rome), including 61 houses intended for about 120 families; "Borgata rurale di Montegrosso" (Bari), consisting of 25 houses for 42 families; "Borgo Vittoria" (Bolzano), 10 houses for 12 families; "Borgo Piave" (Lecce), consisting of 9 rural buildings, two containing 9 dwellings each, and 7 houses for farm settlers of two rooms each; "Borgo Grappa" (Lecce), consisting of five houses.

The houses for settlers in each farm undertaking dependent on the O. N. C. are distributed in the following manner:

"Agro Pontino" (Rome): 520 houses; six different types; each for a single family and for a holding of about 20 hectares.

Farm undertaking of Alberese (Grosseto): 101 houses, including three re-conditioned and 93 built entirely new by the *Opera*; each for a single family and for holdings varying from 17 to 35 hectares.

Farm undertaking of Altura (Pola): 10 houses, five built by the *Opera*; each for one family.

Farm undertaking of Annone Veneto (Venice): 46 houses, all newly built, for a single family, and for holdings of from five to ten hectares.

Farm undertaking of Casanova (Turin): 30 houses for settlers, all of new construction and each for a single family; three types, one for an irrigated farm holding of 8 hectares and two for unirrigated holdings of from 28 to 30 hectares.

Farm undertaking of Castel d'Alfiolo (Perugia): 39 houses, of which two are re-conditioned, all for a single family and for holdings of from 6 to 32 hectares.

Farm undertaking of Cioffi (Salerno): 5 houses, one re-conditioned and 4 built by the *Opera*; two types, all for one family each and for holdings of from 21 to 68 hectares.

Farm undertaking of Coltano (Pisa): 43 houses, four re-conditioned and 39 built new; eight different types; 34 for a single family each and for holdings of 15 to 28 hectares; 9 for two families and for holdings of 16 to 25 hectares.

Farm undertaking of Frigole (Lecce): 19 houses, four re-conditioned and 13 built by the *Opera*.

Farm undertaking of Isola Sacra (Rome): 17 small houses for gardeners, of new construction, for kitchen gardens of from 3 to 5 hectares; 18 houses for settlers, of new construction, for one family each and for holdings of 12 to 20 hectares.

Farm undertaking of Merano (Bolzano): 18 houses, all re-conditioned by the *Opera*, for holdings of from 8 to 34 hectares.

Farm undertaking of Poggio a Caiano (Florence): 25 houses, already in existence at the date at which the farm land became the property of the *Opera*, rendered habitable by the *Opera* itself, for one family each and for holdings of from 15 to 34 hectares.

Farm undertaking of Sarteano (Siena): 13 houses, already in existence at the date at which the farm became the property of the *Opera*: 6 houses for one family each, 5 for two families each, one for three families and one for four families; all for holdings of from 15 to 34 hectares.

Farm undertaking of Sanluri (Cagliari): 7 houses of new construction, for two families each and for holdings of from 50 to 67 hectares.

Farm undertaking of S. Paolo d'Argon (Bergamo): 26 houses, 23 re-conditioned and three of new construction; 5 houses for one family each, 6 for two families, 4 for three families, 2 for four families; three for five families; one for eight families; one for 11 families; one for 12 families.

Farm undertaking of Stornara (Taranto): 10 houses, two reconditioned and 8 of new construction; for from two to four families and for holdings of from 20 to 40 hectares.

Farm undertaking of Val Sellustra (Bologna): 7 houses, one of new construction, for one family each and for holdings of from 26 to 65 hectares.

In LATVIA, after the war, the Government provided all possible financial assistance for the landowners in the work of reconstruction of their farms. Regulations relating to these grants were made under a number of laws including the general law "Law on the credits and subsidies for rural buildings" and the "Law on dwellings for agricultural workers".

As regards improvement of the hygienic conditions of farm workers and the rural housing question, the action of the Government has been as follows:

In the rural centres belonging to the State, buildings suitable for transformation into dwellings, and not required by the State for its farms, schools, hospitals, etc., are restored and set aside for the accommodation of farm workers.

In addition, the State grants a small plot of land for a vegetable garden. These dwellings are leased to farm workers and to artisans at moderate rents, a preference being given to local workers, to widows of artisans, and to war-wounded men.

Grants have been made by the State, in ownership on State lands, of parcels of land up to 10 hectares, to farm workers and artisans who are anxious to build a house and who are landless. The extent of these plots varies according to the distance of the locality respectively from the towns, other communes, railway stations and other localities more or less inhabited.

State aid consists in :

- (a) long term loans ;
- (b) subsidies amortisable after the building is complete ;
- (c) building timber from the State forests, supplied at one fifth of the official price.

The loans are made by the State Land Bank. The total of the loan depends on the extent of the land ; to owners of plots of land of less than four hectares a credit is granted up to 600 *lats* (gold francs) for building a wooden house, and up to 1,800 *lats* for the construction of a stone house ; for owners of a plot of land of more than four hectares, the total of the loan is up to 150 *lats* per hectare for the construction of stone houses and up to 450 *lats* per hectare for the construction of fire proof houses.

A part of these loans is considered by the State as a grant to be amortised after construction. The non-repayable portion of this grant is from 100 to 500 *lats* on each house for wooden dwellings with fire-proof roofs, and from 500 to 1000 *lats* on a house built of stone. If the wooden house is coated with a varnish which preserves the wood from rapid decay, 50 to 100 *lats* are taken off the amortisation in respect of each building.

For the construction of these houses, the Ministry of Agriculture grants, at one fifth of the official price, a fixed quantity of building timber coming from the State forests. In addition, the Ministry also prescribes the granting, in place of building timber, of contributions in the form of fire-resistant material or the equivalent of these materials in cash.

The State also makes loans by the intermediary of the State Land Bank, as well as building timber at one third of the official price, for the equipment of dwellings intended for farm workers.

In spite of the measures adopted by the State for the regulation of the question of farm workers' dwellings, there are still many properties on which there is very little suitable accommodation for workers, and especially a shortage of accommodation for workers' families. To meet this need, the Government is in the course of drafting a new proposal in accordance with which loans and subsidies for the construction of buildings intended for the accommodation of farm workers will be considerably increased in favour of landowners employing farm workers on their farms.

According to this proposal, for the construction of a wooden cottage for a working family, a loan will be made up to 1500 *lats* and for fire-resistant

cottages up to 2500 *lats*; for a wooden house with accommodation for two families the loan will go up to 2500 *lats* and for the same house in stone, up to 3000 *lats*.

After the houses are built, from 40 to 60 per cent. of the loan will be regarded as repaid.

The law on dwellings for farm workers also establishes the minima conditions which must be fulfilled by the respective premises. Thus the premises intended for a worker's family must consist in a large room, a kitchen, an outer room, a privy and outhouses. The minimum floor space must be 40 square metres; the minimum of premises for two families must be 80 square metres.

Buildings plans for dwellings for farm workers have been drawn up by the Public Works Section of the Ministry of Agriculture, which forwards these plans to persons concerned, giving at the same time technical advice through its engineer architects in the province.

For the manufacture of fire-proof building material (cement blocks, bricks, reinforced concrete, etc.) presses and machines have been purchased by the Ministry of Agriculture which places them at the disposal of landowners concerned.

By the provision of suitable dwellings it is hoped to attract to the country districts a larger number of workers, with the result of diminishing unemployment in the towns.

In LITHUANIA special present day interest attaches to the problem of rural housing for the following reasons:

(1) The necessity for rebuilding more than 1200 villages with 14,270 estates and 2000 farms (*sodyba*), destroyed either wholly or in part during the war

(2) The application of the agrarian reform, involving the formation of new holdings, the enlargement of the already existing small holdings and the sub-division of village lands into independent holdings, rendering necessary the construction of many new houses. If it had been possible to carry out on normal lines the extensive work made necessary by the agrarian reform, it would have been accomplished between 1919 and 1931. During this period there would have been brought into existence 36,000 new landowners who were previously landless and these would have received on an average 10 hectares of land each, and would have had to build nearly 100,000 new buildings, reckoning an average of three buildings to each owner. In addition, 23,000 small holders would have had to be provided with nearly 4 hectares of additional land each and with 60,000 new buildings, as the old buildings were for the most part in bad condition. Finally, it would have been necessary to bring into existence 60,000 farms covering 13 hectares each, and to provide for the construction of 150,000 houses, since more than one half of the old houses had become uninhabitable.

(3) The development of agriculture and the improved standard of living in the country districts, which has rendered essential and urgent the construction of buildings of all kinds better corresponding to the needs of the rural population.

It will be readily understood that all these reasons that call for the construction of so large a number of new farm buildings of all kinds also make difficult the improvement of existing rural buildings in Lithuania, which is also much impeded by the scarcity of timber. It has not in fact as yet been practicable to proceed with the work of sub-division of village lands so far as relates to 5500 villages involving the distribution of nearly 900,000 hectares among farm workers, and there are still many houses to be built for the newly formed farms and for farms that have been enlarged.

The harsh and damp climate which prevails in Lithuania does not lend itself to building in masonry. In addition owing to the economic crisis the Lithuanian farmers have no large capital available, which compels them to postpone building, renewals and improvements which are not altogether necessary.

In Lithuania, the *sodyba*, which is the typical farm, consists of three or four separate buildings, one for the dwelling, another for the stabling, and in addition, the barn and the hay store. Only in the more northerly regions the building used as the dwelling has a roof in common with the other installations. In addition to this grouping of distinct buildings the *sodyba* has annexed a farm-yard, a kitchen garden, an orchard and a small garden. On the farms there are more fruit trees and more varieties than in the villages, as they serve to protect the houses from the cold winds.

Dwelling houses are for the most part constructed of wood, with one floor only of two or three rooms, divided by an outer room which gives access to the two lateral rooms, one called *gricia* for the family, and one called *seklicia* for the guests. Many well-to-do peasant farmers also possess rooms that can be utilised under the slope of the roof.

The roof is generally a thatch of straw, sometimes it is made of overlapping boards and is more rarely tiled. For new buildings boards are generally used and sometimes sheet iron. Thus, for example, in the district of Raseinis according to information collected by the Chamber of Agriculture it appears that out of 1319 buildings erected in 1931, including 446 dwelling houses, 126 were roofed with sheet iron, 720 with boards, 14 with tiles and 459 with thatch, so that not more than one third were thatched.

The rooms are not lofty — from 2 to 3 metres only — but the air is easily renewed by means of the windows and the wooden walls. The walls are white-washed on the inside. In the *seklicia* the floor is usually of wood, in the *gricia* of beaten earth; but with the more well-to-do peasants planks are everywhere employed.

The houses are warmed by means of stoves which are as a rule 'not very effective. Meals are cooked on these stoves, and in the new buildings a special type of hearth is added.

Generally speaking each farm has a well, which as a hygienic precaution is always covered. Owing to the high level of the underground waters drinking water is everywhere readily obtainable. The privies are usually primitive in construction and are at a sufficient distance from the dwelling.

Bath-houses are found in the province of Kaunas, in the villages not yet subdivided, in the proportion of one for two or three families; isolated farm-

ing families have one apiece at some distance from the dwelling. In Suvalkia these are less often found, as the peasants prefer to use bath-tubs.

The Ministry of Agriculture and the Chamber of Agriculture give every attention to the improvement of rural building. Plans and models of rural buildings have been prepared by the Ministry for farms of 5, 10 and 20 hectares, these being adapted to farms of recent formation and to the farms resulting from the division of villages and large rural estates.

The Government grants loans for a period of 20 years at 4 per cent. to persons undertaking the construction on improved lines of typical rural houses.

In 1929 a Rural Building Section was instituted at the Chamber of Agriculture, the object of which is to demonstrate the proper construction of houses for farm workers, from the technical standpoint and also with the view of securing the best output. Hints are also given on furnishing and management. This section supplies, at small expense, the plans, drawings and accessories for the equipment of rural dwellings, sends experts whose business it is to give all necessary explanations on the spot, arranges lectures on rural building questions and conducts press propaganda for the improvement of rural buildings. As there are in Lithuania very few specialists in rural building, the Chamber itself organises technical courses in building in clay, in reinforced concrete and in bricks. At the beginning of this year, the Ministry of Agriculture came to an understanding with the Minister of Internal Affairs, which is responsible for supervision of building plans, with a view to agreement between these two Ministries and the Chamber of Agriculture in regard to the general appearance and the hygiene of rural buildings. As a result of this agreement a legislative proposal in regard to this type of building will be presented this year.

Mention should be made of the efforts of the Ministry and the Chamber of Agriculture to stimulate the improvement of hygienic conditions in the country districts by diffusing among the women the first principles of hygiene and household management. During these last years especially, the Ministry of Agriculture has given a great impulse to the teaching of household management by introducing the subject into the curriculum of the ordinary mixed rural schools. Apart from these schools, there are eight special schools for the subject. The training of the teaching staff, lecturers giving courses in household management and practical teachers, has been carried out, since 1930, at the Agricultural Academy of Dotnuva, where a special section has been instituted for the purpose.

The Chamber of Agriculture organises on its own account courses in household management for young girls living in the country, gives lectures on housekeeping, infant hygiene and so on.

In every rural commune in SWEDEN, according to the Health Regulations of 1919 there must be established a Health Council, one of the duties of which is to endeavour to secure healthy housing. The buildings intended for dwelling houses must be so arranged as to avoid prejudicing the health of the occupants. Every room must provide the cubic space necessary for one person, and be so arranged as to allow of proper heating and protection against damp. Each



room must also have a window admitting sufficient light and allowing of the necessary renewal of air. The flooring of every newly constructed room or kitchen must be at least 30 centimetres above the surface of the ground. The Health Council is empowered to condemn rooms unfit for human habitation.

In some cases, in Southern Sweden for example, the provincial authorities have issued supplementary advice and instructions to the Rural Health Council. It is recommended that living rooms should not be constructed in stables or barns, unless such rooms can be completely isolated and provided with a fireplace. Living rooms should provide 20 to 25 cubic metres per adult unit or a somewhat smaller cubic space if several persons live in the same room. Rooms must be provided with a fireplace, and there must be in every room a window of sufficient size which must be capable of being opened. Double windows must be provided in winter. Doors should not open directly on the outer air and floors must be of wood.

Considerable light is thrown on rural housing conditions by two enquiries, one initiated by the medical profession and published in the autumn of 1930 (1), and the other carried out by the Swedish Administration of Labour and Social Thrift, known as the Social Board.

For the purpose of the former enquiry the information was collected by means of a questionnaire in a number of communes over the whole of Sweden during the years 1926 to 1929. Points were given to dwellings according to:

- (1) the nature of the soil on which they are erected;
- (2) the nature of their foundations;
- (3) their internal and external condition;
- (4) the number of persons per room;
- (5) the cubic space per person;
- (6) the cubic space of bedrooms;
- (7) the cubic space of bedrooms per adult unit (two children under 15 years of age = one adult);
- (8) the area of windows as a percentage of floor space;
- (9) access to drinking water;
- (10) the existence of pantry, cellar, wardrobes, and wash-house.

It was possible in this way to grade a dwelling quantitatively and qualitatively in points. The maximum number of points obtainable according to the scale was 38. A dwelling house which was awarded less than 20 points was considered as inadequate.

The report further distinguishes the occupations and social groups of occupiers. This makes it possible to consider separately the housing conditions of agricultural wage-paid workers and of those employed in other industries in the countryside.

For the purposes of the enquiry the households were divided into two groups — the well-to-do class (group A) and the poorer class (group B) — according

(1) PETTERSSON ALFRED and STÉENHOFF G.: *Bostads för hållandena på landsbygden i Sverige. Från Karolinska Institutets Hygieniska Avdelning*. Stockholm, Isaac Marcus, 1930. See also: "Housing Conditions of Agricultural Workers in Sweden". *International Labour Review*, Geneva, July 1931.

as the annual income per adult (two children under 15 years old being taken as equivalent to an adult) was over or under than 300 Swedish crowns (*kronor*). Persons occupying a dwelling consisting of three or more rooms and a kitchen were classed in group A irrespective of their money income.

The enquiry had reference to a total of 1,781 workers' homes, half of which were the households of agricultural workers and half those of workers engaged in other industries. Rather more than half of the former group of households were grouped in the poor class. The number of persons taken into consideration was 7,280.

The large majority of the houses were built of wood, but of these most had a low foundation of stone. Of the whole number of houses in the communes dealt with in the enquiry, which were constructed on a moist soil, one-third were occupied by agricultural workers.

A certain number of houses were recorded as in a bad state of repair; 6.4 per cent. of well-to-do agricultural workers and 14.3 per cent. of poor agricultural workers lived in such houses. In addition, 50.8 per cent. of agricultural workers (43.5 per cent. of the well-to-do and 57.4 per cent. of the poor) lived in houses which were described as damp and cold.

As regards the number of rooms occupied by workers' households, it was shown that four-fifths of the poor agricultural workers did not possess two rooms and a kitchen, while more than half of the well-to-do agricultural workers were in the same position. Thus, a little over one third only of the well-to-do agricultural workers, and one fifth only of the poorer workers, occupied dwellings with two rooms and a kitchen. Three rooms and a kitchen were quite exceptional in the case of agricultural workers. The report states that from whatever point of view the situation be considered, the housing conditions as regards the number of rooms were especially unsatisfactory in the case of agricultural workers and *torpare* (1), even where they belonged to the well-to-do class. This is partly attributable to the fact that the dwellings often formed part of the wages of agricultural workers and that many of the dwellings dated from a time when one room and a kitchen or even one room with a fireplace was considered suitable accommodation.

As regards dimensions of dwellings, a fourth of all workers' households had to be content with 20 to 30 square metres. In addition the enquiry showed that 17.3 per cent. of the workers lived in rooms less than 2.10 metres in height, and only 8.5 per cent. in rooms of more than 2.70 metres high.

As regards cubic space, the agricultural workers' dwellings considered in the report very rarely attained the 85 to 100 cubic metres regarded as adequate.

The comfort of a dwelling and the number of conveniences it possesses vary in proportion to its general standard, but it was noted that 54 per cent. of agricultural workers were living in houses with no lobby or entrance hall, an important point in so cold a country as Sweden. A large proportion of these dwellings also were without pantry, cellar, wardrobe or wash-house.

(1) Smallholders paying rent in the form of a certain number of weeks of labour.

Taking into consideration the general classification of workers' households according to the number of points awarded to the dwellings, it was evident that a large number of these fall below the standard considered adequate. Of the households of well-to-do agricultural workers 27 per cent., and of the poor agricultural workers 42 per cent., were living in houses that obtained less than 20 points, *i. e.*, not fulfilling the minima requisite conditions. Not less than 40 per cent. of the workers' households lived in dwellings that obtained from 20 to 24 points, or only a few points above the minimum. Practically no households lived in dwellings obtaining 30 or more points.

The results of the enquiry made by the Social Board are not given here in detail, as its purpose was purely administrative. It is of interest however to indicate certain recommendations which form the conclusions of both reports.

The report of the medical enquiry states that building regulations for the country side appear to be necessary and emphasise the utility of a rationally organised advisory service. It recommends that modern building plans should be available and that a more systematic housing inspection should exist. The Social Board on the other hand without under-estimating the importance of a revision of the existing Health Regulations and other provisions, points out that the practical effect of such regulations cannot exceed the limits of what is economically possible. In order to obtain improvements in rural conditions, it is therefore necessary to supplement legislation by positive assistance, in particular by the granting of credits.

\* \* \*

It should be noted that the question of rural housing, in connection with that of the rural exodus, was discussed at the meeting of the Mixed Advisory Agricultural Committee – the liaison body between the International Institute of Agriculture and the International Labour Office – which was held at Rome from 7 to 9 November 1929, and that it was again considered at the last meeting of the same Committee (Rome, 18 and 19 March 1932), when the Institute was requested to pursue its investigations while reserving the power to select the time considered most opportune for sending out an enquiry relating to rural housing conditions in the different countries.

G. COSTANZO

## INSURANCE

### Hail Insurance in South Africa.

In the Union of South Africa hail insurance was only carried out during 1931 by a small society at Ficksburg, in the Orange Free State, the Farmers' Hail Insurance Society.

In the course of last year proposals were put forward for the formation of a co-operative insurance society which, according to the intentions of the promoters, was to extend its operations to the whole country. The object of this society was to be the carrying on under a co-operative system of the business of insuring

the agricultural crops of its members against damage caused by hail, fire, pest, and rust and of insuring their livestock against death.

According to the plan drawn up, *bona fide* farmers, co-operative agricultural societies and companies and such associations as are mentioned in the Co-operative Societies Act could become members by application to the Board of Directors.

It may be of interest to note the principal provisions of the Rules of the Farmers' Hail Insurance Society.

The Society has a working capital, an insurance fund and a reserve fund. The working capital is provided by an annual levy of one per cent. upon the amount proposed for insurance by each member, to be paid in cash at the time of making the proposal. The balance of the working capital remaining unexpended on 31 July in each year must be set aside as a reserve fund for payment in compensation for any loss or damage to be suffered by members who have contributed to such working capital and for which loss or damage the insurance fund may prove to be inadequate. The interest or holding of each member in the reserve fund is calculated according to the contribution made by him towards the working capital.

All profits earned by the investments of the Society must be carried to a dividend account and must be distributed annually to the members in proportion to their holding in the reserve fund.

No payment of compensation may be made out of the reserve fund of a sum greater than the value of the holding therein of the member to whom it is paid. A member may decide not to take such compensation; in this case, his holding in the reserve fund remains undiminished. The compensation paid out of the reserve fund in any one year must not exceed two-thirds of the amount of the fund; if necessary, in order to keep the compensation paid within this limit, all claims must be reduced proportionately. No amendment to the provisions relating to the reserve fund may be made until its amounts to a sum of not less than £50,000.

The insurance fund is provided by the contributions of the members. These consist in a levy of not more than two per cent. of the amount proposed for insurance by each member, which must be paid at the time of making the proposal. At the end of every period of insurance, the Directors must return to the members such portion of the insurance fund as may remain after compensation has been paid for losses incurred by the members of the society.

No member has any claim for compensation upon any one or more of the members of the society; compensation is paid only by a division amongst claimants of the insurance fund or of their shares in the reserve fund *pro rata* according to the amounts insured.

The financial year of the society begins on 1 July and ends on 30 June in each year.

*Bona fide* farmers of European descent may become members of the Society provided that their application for membership is approved by the Board of Directors, who have the right to accept or to refuse such applications without giving reasons.

The Board of Directors, which consists of seven members appointed by the General Meeting, directs and controls the work of the Society. The Directors choose from amongst the members of the Society two or more assessors to appraise damages to the crops of members. The decision of the assessors or the majority of them in regard to the damages is final.

At any time after 1 October in any year, each member wishing to insure his crop, must furnish to the Society a proposal for insurance upon a form approved by the society. Every member is at liberty at any time before loss or damage has occurred to have the value of his crop estimated, at his own expense, by one or more assessors. Such valuation must be lodged with the Board of Directors for the guidance of the assessors in the event of damage occurring. The assessors must pay due regard to pre-valuations.

Whenever the crop of a member suffers damage by hail, he must within three days furnish to the society an estimate of such damage, after which the assessors proceed to appraise it.

No compensation may be paid in excess of the amount insured for and if a member whose crops have been damaged by hail reap any portion of his crop, the value of such portion must be deducted from the amount for which he may have insured.

If in any particular year the total claims exceed the amount of the insurance fund, the fund must be divided amongst the claimants *pro rata* to their claims as appraised by the assessors. In addition they will receive a share of the reserve fund, as indicated above.

In the event of total loss of the crop, one fourth of the value as appraised by the assessors must be deducted as representing the expenses not disbursed by the claimant (expenses of reaping, carriage, threshing and bagging). In the event of partial loss, a proportionate deduction must be made.

On 31 March in each year, or as soon after as possible, the Directors must distribute among claimants such proportion of the insurance fund as they are entitled to upon their appraised claims, after deduction of the undisbursed expenses.

The following are some figures concerning the hail insurance business of the Society during 1929, 1930 and 1931.

Number of members : 176 in 1929 ; 420 in 1930 and 2,300 in 1931.

Levy : in 1929, a cash levy of 1 per cent., amounting to £1,467, used for administration, and a levy of 4 per cent., on promissory notes, of which only about 1 per cent — £1,467 — was used for compensation of losses sustained through hail ; in 1930, a cash levy of 3 per cent., of which 1 per cent. was used for administration, about one per cent. for the compensation of losses and one per cent. refunded ; in 1931, a cash levy of 3 per cent., amounting to £31,500, details of the use of which are not yet available.

Area insured : 36,675 morgen (1) in 1929 ; 57,500 morgen in 1930 ; and 200,000 in 1931.

(1) 1 morgen = 2  $\frac{1}{8}$  acres.

Compensation paid £1,100 in 1929 ; £2,100 in 1930. For 1931 figures are not available.

The large increase in membership is a striking proof that the farmers are well satisfied with the working and practical results of this small insurance company.

Up to 1931 no legislative measures had been taken with a view to the development of hail insurance.

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[In the January number of this *Bulletin* a note appeared on a previous work of this author: *The Soviet Five Year Plan, its Effects on World Trade*, in which the writer gave his impressions of the economic life of Russia. As a result of his visit to the country he was in a position to report on a marked revival of activity due to the application of the Five Year Plan to the national economy.

In this later publication, KNICKERBOCKER studies the effects of the Five Year Plan on the world economy as well as the influence of the general crisis on the economy of the U. S. S. R. at the present time. As correspondent of two American newspapers, the *New York Evening Post* and the *Philadelphia Public Ledger*, he made rapid journeys for purposes of enquiry and observation through nearly the whole of Europe, stopping at the principal ports and large towns. The results of this enquiry have been published in a series of articles in these two papers and now appear in the form of a volume.

The writer, who has made full use of documentary evidence, notes that in all the countries there is a steady increase in the trade with the U. S. S. R. In this trade as for example for petroleum, the pre-war figures are already exceeded. Owing however to the reduced prices of commodities, especially of agricultural products on the world market, there is a perceptible shrinkage in the value of Russian exports. For the first six months of 1931, while the volume of Russian exports was 110 per cent. of the volume for the same period of 1930, and 175.4 per cent. of the volume for 1929, the value was only 78 per cent. of the corresponding period in 1930 and 90 per cent. of the same period in 1929.

Notwithstanding this shrinkage in values, and in order to carry through the industrialisation of the country and to effect an increasing importation of machines from other countries, the U. S. S. R. is compelled, in spite of the unfavourable situation, to place more of its products on foreign markets. In the foreign trade of Russia imports usually exceed exports. In the first six months of 1931, the value of the imports exceeded that of exports by 151,020,000 gold roubles. Some of the countries trading with the U. S. S. R. have an active trade balance with that country, and this is especially true of the United States. With the object of encouraging the flow of goods towards the U. S. S. R., many of the European States guarantee to their exporters from 70 to 75 per cent. of the total payments due. On the other hand, at the present time, England is taking 30 per cent. of the total exports from the U. S. S. R., Germany 22 per cent., Latvia takes 7 per cent. for consumption and transit together, Italy 5 per cent., etc.

The writer considers that, generally speaking, Europe does not seem to regard with apprehension "the Red Trade Menace", in view of the fact that commercial transactions are developing on an increasingly large scale, and that these transactions are at least temporarily relieving to some extent the dark days of the world economy.

The book provides a very clear and logical statement of Russian trade and its interlocking with world trade. Occasionally the comments made by the writer are somewhat startling, especially when he alludes to the economic attitude taken up by Europe in regard to the United States of America. The reader will however have no difficulty in distinguishing between what is valuable and what is less so in this volume, and unquestionably it is the former which prevails].

*L'Est Européen Agricole*. Revue trimestrielle des questions agraires et agricoles internationales. Varsovie, Société de l'Instruction Agricole (Towarzystwo Oswiaty rolniczej). Paris, Librairie Jouve et Cie, No. 1, April 1931.

[This review, the first number of which is full of interest for all who recognise the importance of concerted action in the agricultural sphere in this time of world crisis, marks a stage in the movement, which, since the Warsaw Conference in August 1930, has been one of the most characteristic and noteworthy phenomena in the international life of the agricultural world. The predecessor of this journal, the ably edited review *L'agriculture polonaise et des Pays de l'Est Européen*, as stated in the preface to this new publication, "made it its object to follow day by day the stages in the development of the collaboration between the eight agricultural States (Bulgaria, Estonia, Hungary, Latvia, Poland, Rumania, Czechoslovakia, and Yugoslavia) which had met at Warsaw to lay down the bases of common action, intended to remedy the consequences of a crisis affecting seriously their economic life. At the same time the intention was to collect all information relating to agricultural and agrarian subjects in Poland". *L'Est Européen Agricole* which succeeds it proposes to present in the first place a full documentation on the different operations and enquiries undertaken jointly by the agrarian States of Central and Eastern Europe with a view to remedying the consequences of the world crisis. On the other hand, *L'Est Européen Agricole* will endeavour to do for each of the States of the "Bloc Agricole" what *L'Agriculture Polonaise et des Pays de l'Est Européen* had effected in respect of Poland. But *L'Est Européen Agricole* does not intend to be merely an organ of documentation and information. It will make a study, with the help of highly qualified specialists, of questions of organisation of farm undertakings, foreign trade policy, relations between industry and agriculture in the different agrarian States and will make a dispassionate review of theories and facts. *L'Est Européen Agricole* will aim, in addition, at forming by degrees a kind of laboratory where from the results of practical experiment and from abstract theories there will be disengaged the information required for bringing about the agricultural and agrarian organisation of Central and Eastern Europe.

This new publication in the interests of agriculture merits every success].

SALGADO F. Ribeiro : Le Brésil et les Colonies Portugaises. (Aperçu de leurs ressources économiques, par rapport à leur commerce d'exportation). Lisbonne, 1930, pp. 335.

[This is essentially a handbook for consultation and undoubtedly achieves the practical purpose intended by the writer, as the information supplied on the economic and commercial position of the countries dealt with is very full and the subject matter is well arranged and co-ordinated. In regard to Brazil, it will be noted that the enquiry relates almost exclusively to agricultural production, the branch of economic activities which, as is well known, makes the largest contribution in the export trade of the country. The writer remarks that the economists of the country calculate the production of vegetable origin at eight millions of *contos* yearly, the production of animal origin at 400,000 *contos*, and the production of mineral origin at 70,000 *contos*.

Hence a sum of about 8,500,000 *contos* may be taken as representing the value of all these products. Others however consider that this figure may be safely raised to 9,000,000 *contos*. The Year Book of the Ministry of Agriculture values the industrial activity of Brazil, in 1926, at a total of 7,200,000 *contos*, which the economists state to be an under estimate. In this way a total figure of nearly 17 million *contos* may be reached. M. Ribero Salgado passes on to the study of the economic resources of the Portuguese colonies, adopting a system as much as possible identical with that followed for Brazil, keeping steadily in view the possibilities of a larger development of the export trade].

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# MONTHLY BULLETIN

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## AGRICULTURAL ECONOMICS AND SOCIOLOGY

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### MARKETING OF AGRICULTURAL PRODUCE

#### World Production of and World Trade in Table Grapes (*Continued*).

#### II. — Asiatic Countries situated on the Mediterranean.

Vine cultivation on the eastern shores of the Mediterranean has a special character from the fact that in these regions, owing to the predominance of a Mahometan population, wine production fell into the background, so that the main importance attaches to the production of dried vine fruits. In connection with this cultivation that of table grapes was undertaken and is now carried on with increasing success. Up to the post war years the production mainly served local markets. In Cyprus with its prevailingly Christian population, and in Palestine, where during the nineties Jewish immigrants frequently took up vine growing in the newly founded colonies, production was on a larger scale. In both these areas table grape production has made great strides in the last ten years under pressure of the crisis in wine sales which also affected these countries. Modern vineyards, growing improved kinds of table grapes, have made an appearance in Palestine, more especially on the plain of Jezreel, where grapes ripen very early. In Turkey on the other hand, where the wine crisis does not exist, beginnings only in the direction of improved planting are to be observed.

Exports of grapes from Cyprus and Palestine are mainly directed to Egypt. In the last few years attempts have been made, with the support of the Empire Marketing Board, to export grapes from both these countries to England, but these endeavours, although not encountering any serious technical difficulties, have up to the present had no tangible results. There are no special statistics relating to the grape export from Cyprus. The table grape export from Cyprus has trebled since 1924, in which year it was, as in the pre-war years, about 5000 quintals. The following quantities were exported :

1928 . . . . .	21,397 quintals
1929 . . . . .	16,659 quintals
1930 . . . . .	14,844 quintals

Exports from Palestine are much larger than formerly, although the home consumption has much increased in the last few years. The export trade of Palestine and of Turkey may be seen from the following figures:

*Export of Table Grapes from Palestine.*

Year	In 100 £ P	In 100 quintals		
		Total	Including export to	
			Egypt	Syria
1928 . . . . .	17	25	24	1
1929 . . . . .	42	63	63	0
1930 . . . . .	52	37	—	—

*Import of Table Grapes into Palestine.*

Year	In 100 £ P	In 100 quintals	
		Total	Including imports from Syria
1928 . . . . .	27	26	26
1929 . . . . .	19	20	20
1930 . . . . .	40	32	...

*Export of Table Grapes from Turkey.*

Year	In 1000 £ T	In 100 quintals				
		Total	Including exports to			
			Greece	U. S. S. R.	Egypt	Syria
1928 . . . . .	19	32	11	13	5	2
1929 . . . . .	8	15	3	6	—	5
1930 . . . . .	23	38	23	1	—	11

V. — The Overseas Countries.

1. — *United States of America.*

Table grape cultivation only became an important factor after 1900 although vine cultivation has been carried on for some hundreds of years. So long as production did not keep pace with demand, there had to be a somewhat large import. Subsequently extension of the cultivation followed very rapidly although

growing of grapes under glass has not been successfully developed in the United States as compared with Europe. At the present time not only are the requirements of the United States covered by the home production but there is a considerable surplus which has to be exported. Both wine and table grapes are now sent to nearly all parts of the States. It is however only in California, the States on the Great Lakes and — to a less extent — some States of the Middle West that the trade has an importance beyond the covering of requirements of the growers themselves or those of the local markets.

Both in California and in the Lake States the cultivation of table grapes began as a subsidiary branch of wine grape growing; and up to about the years 1860 to 1870 the development of the two branches followed similar lines. Since then the table grape cultivation has become increasingly independent, first in the Eastern States where the neighbourhood of large towns ensured a steady market for fresh grapes. This change of direction received further impetus from the selection and diffusion of a new table variety, known as "Concord," and from successful crossings of American with European varieties. The extension of table grape production in the years 1870-1890 involved an extraordinary development of vine cultivation in these States, while vine growing in California was developed rather through the extension of the growing of wine grapes and raisins. Although in California after the introduction of first class French varieties the table grape production very soon reached a high level as regards quality, yet in consequence of the absence of adequate transport and handling organisation only 40,000 tons of all kinds of grapes could be placed round about 1890 on the market, while the other States, and in particular the Great Lake regions, marketed more than 220,000 tons. It should be remembered that the whole grape-growing area of California was at that time already somewhat larger than that of the other States taken together. In the course of the next 30 years there has been no striking development of vine growing in the Eastern States. The grape production remained with some fluctuations at about the height reached in 1890. In the same space of time the Californian cultivation underwent expansion at an increased rate, the increase being largely and especially after 1900 due to an augmented production of table grapes. With the amplification of the transcontinental railway system and the additional utilisation of refrigerating trucks it became much easier to consign Californian grapes to the eastern markets. An improvement in the quality and in the methods of packing and display of table grapes, due in the first place to pressure from the co-operative societies but steadily continued, led to the securing of a wide market at the cost of the "Eastern grapes," the quality of which did not in the same measure correspond to the more exacting demands of the market. In any case the table grape production in the Eastern States for some years after the turn of the century had shown signs of retrogression. The difficulties of marketing increased, from the competition of the Californian grapes, so seriously that a growing proportion of the production found its way into the newer branches of utilisation, especially into the grape juice factories. This development was accompanied by a decline in regard to quality, as quality and packing were no longer decisive factors when the grapes were grown and prepared for industrial uses.

In California table grapes are mainly grown in the warmer regions of the San Joaquin and Sacramento Valleys and in the South of the State. Some two thirds of the table grape area lies in the counties of San Joaquin, Fresno and Tulare. In the Eastern States the production is chiefly carried on in the Chautauqua and Finger Lake area of New York State, in the Benton Harbour and Paw-Paw districts of South West Michigan and in Erie County, Pennsylvania. Californian production is based on the European kinds of grape, among which special mention may be made of the varieties, Malaga, Flame Tokay and Emperor, which cover 90 per cent of the whole table grape plantations. In the Eastern States the cultivation is of grapes of the indigenous *Labrusca* type, of which the best known kinds are Concord, Niagara and Catawba.

In the following table are shown, for 1900-1919, under the first heading, the development of table grape production in California, under the second heading, that of the export of table grapes, *i e*, that conveyed by rail beyond the limits of the State. The figures show fairly completely the total export from this State, as in consequence of the great distances no other means of transport is much in use.

The internal trade of California could not naturally be shown in this connection.

*Production of Table Grapes in California*

Year	1000 short tons		Including exports 1000 truck loads (1)
1900 . . . . .	12	approximate	0 8
1905 . . . . .	24		1.6
1908 . . . . .	57		3 8
1910 . . . . .	74		4.9
1912 . . . . .	95		6.3
1914 . . . . .	132	approximate	9
1916 . . . . .	136	»	11
1918 . . . . .	173	»	17
1919 . . . . .	200	»	20

By 1920 the leading position of Californian table grapes was undisputed. The proportion of the Californian production to the whole of the United States was in 1919 calculated at 65 per cent. At the present time the proportion may be taken as about 90 per cent.

A certain obscurity surrounds the table grape trade during the last ten years. It is well known that the prohibition legislation has not interfered with the preparation of wine in the household for family consumption. This opportunity is made use of by certain enterprises for the illegal manufacture of alcohol.

(1) A truck holds 18,000 to 25,000 pounds, or about 10 short tons. According to returns of the railroad statistics the figures refer in general to grapes which are consigned in the fresh state; in practice accordingly they refer almost exclusively to table grapes, as wine and raisin grapes undergo previous preparation on the spot in California.

Since the coming into force of the prohibition legislation in January 1920, immense quantities of wine grapes have been packed in cases and exported from the wine-growing districts, but only a part of this export is formed of grapes for table use. The exports of fresh grapes from California have risen rapidly since 1920.

*Export of Fresh Grapes from California since 1920 (in 1000 truck loads).*

Year		Year	
1920 . . . . .	29	1926 . . . . .	64
1921 . . . . .	33	1927 . . . . .	76
1922 . . . . .	44	1928 . . . . .	73
1923 . . . . .	55	1929 . . . . .	59
1924 . . . . .	58	1930 . . . . .	63
1925 . . . . .	76		

According to information received from the Federal State Inspection Service and the California Vineyardists' Association, the quantities of table grapes proper exported from California were, in 1000 truck-loads.

Year		Year	
1925 . . . . .	15.5	1928 . . . . .	23.0
1926 . . . . .	12.3	1929 . . . . .	18.3
1927 . . . . .	21.3		

According to these returns the table grape exports have not greatly increased since 1916-18. Production of course doubled itself after 1919. A proportion of the grapes, however, the exact ratio of which varies with the crop outturn, is no longer harvested, as the Californian growers have adopted a measure of crop restriction with a view to keeping prices up.

*Production of Table Grapes in California (in 1000 short tons).*

Year		Including quantities not gathered
1920 . . . . .	166	—
1921 . . . . .	163	—
1922 . . . . .	213	—
1923 . . . . .	312	—
1924 . . . . .	325	—
1925 . . . . .	477	100
1926 . . . . .	398	15
1927 . . . . .	490	142
1928 . . . . .	478	75
1929 . . . . .	312	—
1930 . . . . .	418	204

As consequence of the extension of production the first sign of price weakening appeared during the season 1922. These became increasingly pronounced, and prices in 1925 had dropped to about one fourth of those of 1921.

*Farm Price of Californian Table Grapes in \$ per ton.*

Years	\$	Years	\$
1921 . . . . .	80	1926 . . . . .	25
1922 . . . . .	60	1927 . . . . .	26
1923 . . . . .	40	1928 . . . . .	26
1924 . . . . .	40	1929 . . . . .	35
1925 . . . . .	20	1930 . . . . .	21

The restriction of sales which began in 1925 would have had to be more comprehensive than it actually was, if the price level, already very low in 1925 was to be maintained. The American table grape trade had however meanwhile penetrated to the foreign markets and the home market was thereby perceptibly relieved. This result gained emphasis, in that at the same time in consequence of the prohibition of import of Spanish grapes for the table the total import of the United States in table grapes dropped to about 10 to 15 per cent. of the former quantity. By means of sales restrictions, throttling of the import and forcing of the export, the table grape market was successfully stabilised, and in fact the price development took a slight upward turn, to be again counteracted in 1930 in consequence of the economic crisis.

Since 1925 the United States has been an exporting country for table grapes

*Foreign Trade of the United States in Table Grapes (in 1000 pounds).*

Fiscal Year	Import	Export	Fiscal Year	Import	Export
1907 (1) . . . . .	31,296	0	1919 . . . . .	16,773	0
1908 . . . . .	53,857	0	1920 . . . . .	12,810	0
1909 . . . . .	29,005	0	1921 . . . . .	24,039	0
1910 . . . . .	32,907	0	1922 . . . . .	18,796	0
1911 . . . . .	35,796	0	1923 . . . . .	32,651	14,022
1912 . . . . .	48,225	0	1924 . . . . .	20,029	20,257
1913 . . . . .	27,379	0	1925 . . . . .	3,216	20,302
1914 . . . . .	32,157	0	1926 . . . . .	2,830	24,268
1915 . . . . .	31,910	0	1927 . . . . .	2,021	30,791
1916 . . . . .	15,037	0	1928 . . . . .	3,471	38,819
1917 . . . . .	33,803	0	1929 . . . . .	3,405	55,638
1918 . . . . .	13,414	0			

(1) Up to 1907 the imports of table grapes were not shown separately.

Before the war 95 per cent. of the imports came from Spain; apart from these small quantities of Belgian glasshouse grapes came in. The Belgian imports somewhat increased in the post-war years. Imports of Argentine table grapes now also arrive and show a tendency to increase.

*Import of Table Grapes into the United States.*

Year	In \$ 1000	In 100 cubic feet								
		Total	Including imports from							
			Belgium	Germany	Great Britain	Netherlands	Spain	Argentina	Brazil	Chile
Average 1911-13. .	1,804	15,406	193	20	55	9	15,076	3	—	—
1928 . . . . .	318	1,381	259	—	2	—	—	995	—	117
1929 . . . . .	301	1,422	394	—	—	—	—	930	10	87
1930 . . . . .	944	2,224	243	—	—	—	—	1,938	11	28

The United States export is, to the extent of nearly two thirds, taken by Canada. Importing countries of second rank are Mexico, the Philippines and Cuba. The increasing importance of the European markets is clear from the rising imports of Great Britain.

The table grapes exported from the United States are mainly Californian, and the variety Emperor is of special importance.

*Export of Table Grapes from the United States.*

Year	In \$ 1000	In 100 lbs.								
		Total	Including export to							
			Great Britain	British Malaya	Ceylon	China	Hong-kong	Java	Philippine Is	Canada
1928 . . . . .	2505	5361	54	36	13	23	45	15	153	3920
1929 . . . . .	2463	4731	14	46	18	22	52	23	167	3381
1930 . . . . .	2121	4900	210	28	25	12	41	24	187	3323

Year	In 100 lbs								
	Including export to								
	Colombia	Costa Rica	Cuba	Dominican Rep.	Guatemala	Mexico	Panama	Salvador	Venezuela
1928 . . . . .	19	21	529	10	18	334	23	17	22
1929 . . . . .	23	12	382	14	19	308	30	23	40
1930 . . . . .	24	10	357	12	12	340	29	13	54



8. — *Argentina.*

Vine growing in Argentina for climatic reasons has mainly developed in the semiarid provinces of Mendoza and San Juan at the eastern slopes of the Andes. In consequence of the unfavourable market conditions the cultivation was in the first place confined to wine grapes. It was not till the post-war period that attention was given to the production of table grapes, after the railway had introduced refrigerating trucks and freight reductions with the effect of stimulating the vine growers to a partial swing over to table grape growing. By this time the towns on the eastern side were regular purchasers of fresh grapes, and in addition an export began to develop. Since consignments arrive on the market in January and finish in May, the grapes come upon the North American and European markets at a time of the year when comparatively high prices can be obtained. In particular the North American market which at that time is not supplied with other grapes shows an increasing absorption capacity.

Data as to distribution of the exports to the separate countries were available only for 1927. It appears from a comparison of the statistics of the importing countries, that in 1930 about 20,000 quintals, or more than a third of the total export from Argentina, was taken by the United States, about 9000 quintals went to Great Britain and about 2000 to Germany. The remainder of about 20,000 quintals would appear to have been exported mainly to Brazil.

*Export of Table Grapes from Argentina*

Year	In 1000 gold pesos	In 100 quintals				
		Total	Including exports to			
			Great Britain	Brazil	Uruguay	United States
1927 . . . . .	148	176	44	61	5	63
1928 . . . . .	419	405	—	—	—	—
1929 . . . . .	299	408	—	—	—	—
1930 . . . . .	316	542	—	—	—	—

Table grape imports into Argentina which before the war mainly came from Spain have now greatly declined

*Import of Table Grapes into Argentina.*

Year	In 1000 gold pesos	In 100 quintals	
		Total	Including imports from Spain
Average 1911-13 . . . . .	21	37	30
1928 . . . . .	11	11	—
1929 . . . . .	18	17	—
1930 . . . . .	7	7	—

### 3 — *Union of South Africa.*

Vine growing was introduced into Cape Colony in the middle of the 17th century soon after the arrival of the first larger bands of European settlers. The Huguenots from Southern France were in particular the pioneers of this cultivation, which is still mainly to be found in the districts settled by them, namely in the Paarl and Stellenbosch districts. Vine growing has not been extended beyond the boundaries of the Cape Province which was the province originally settled. Until about 20 years ago the cultivation was based almost exclusively on production of wine, for which a market was readily found, apart from the up country consumption which was not very large, in the requirements of the numerous vessels that put in at Cape Town for supplies or cargoes. Table grape cultivation had local importance only until satisfactory transport was ensured by means of the establishment of a regular service of steamers equipped with cool chambers.

Up to the present the South African export of table grapes is mainly directed to the British markets, where they command good prices as arriving out of the regular grape season. The crisis in regard to sale of wines which is also noticeable in South Africa has given an impulse to the development of table grape cultivation. In 1925, the year of the latest census, out of about 100 million vines about three million were devoted to table grapes. There is a somewhat large number of kinds. White and Red Hannepot, Muscat, Gros Colman, Ohanez and others. The increase in the exports during the past years is clearly shown from the following figures, although for the years 1911-13 only figures for values are available. The fruit is packed in boxes of 10 lbs. each. The sides of the boxes are lined with cottonwool and tissue paper and layers of the same materials are also placed between the bunches.

*Export of Table Grapes from the Union of South Africa*

Year	In £ 100	In 100 boxes		
		Total	Including export to	
			Great Britain	Portuguese East Africa
Average 1911-13 . . . . .	146	—	—	—
1928. . . . .	1 534	4,778	4,581	101
1929. . . . .	1,509	5,167	4 982	119
1930. . . . .	1,653	5,566	5,319	151

### 4. — *Australia.*

Vines are grown for wine, for dried vine fruits and for table grape production. Out of about 43,000 hectares under vines about 3000 hectares are devoted to the production of table grapes. Vine growing has been especially extended since the world war, as at the time of the soldier settlements the districts were preferred

that were suitable for fruit and vine-growing. During the season 1927-28 the production of table grapes amounted to 12,285 short tons, distributed as follows:

	Short tons
New South Wales . . . . .	4,250
Victoria . . . . .	3,338
Queensland . . . . .	1,474
South Australia . . . . .	581
Western Australia. . . . .	2,642

The grapes are for the most part consumed in Australia itself, and for this reason no special heading is so far given to table grapes in the Australian export statistics. During the last few years however some quantities of Australian table grapes reached England, as appears from the import statistics, the average for the years 1928 to 1930 being about 2000 quintals.

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(To be concluded).

## INSURANCE

### Hail Insurance in Austria.

At the present time the following societies deal with hail insurance in Austria:

#### (a) National

Burgenländische Versicherungsanstalt, Eisenstadt

"Donau" Allgemeine Versicherungsaktiengesellschaft, Vienna.

"Phonix" Allgemeine Versicherungsaktiengesellschaft, Vienna.

Steirer Versicherungsaktiengesellschaft, Gratz.

Versicherungsanstalt der Österreichischen Bundesländer, Vienna.

"Wechselseitige Brandschaden" und "Janus" Versicherungsanstalt auf Gegenseitigkeit, Vienna

#### (b) Foreign

Assicurazioni Generali, Trieste.

Erste Ungarische Allgemeine Assekuranz-Gesellschaft, Budapest.

Foncière, Allgemeine Versicherungsanstalt, Budapest.

Riunione Adriatica di Sicurtà, Trieste

Vaterländische Allgemeine Versicherungs-Gesellschaft, Budapest.

The limited liability company "Der Anker," which up to 1931 also undertook hail insurance has suspended activities in this branch.

The first ten companies do hail insurance business on the basis of a common risk (*au/ gemeinsame Gefahr*) in conformity with an agreement binding the companies and laying down common conditions of insurance, common scales of premiums and a common valuation of the damage produced by hail. The

executive body which carries out the functions indicated is the *Hagelschaden-Erhebungsbureau*, called more simply *Hagelbureau*.

This office owes its establishment, which took place in 1890, in the main to the fact that as long as each insurance company based the determination of the damages produced by hail on the opinions of its experts, there were differences in the valuations and this was unsatisfactory for the farmers.

Moreover the estimate of the risks according to the districts was not very exact on account of the lack of sufficiently comprehensive statistics, each society having at its disposal only its own figures. With the formation of the *Hagelbureau* these difficulties disappeared.

The valuations of losses have since then been carried out in common, and only by old farmers fully competent in the matter and very often checked by well-known experts.

The travelling expenses of the experts have been greatly reduced since a single expert can now do the work which formerly was carried out by several experts each sent by a different company.

The statistics and the observations on hailstorms are now combined into a common statistic, it follows that the estimate of the risks is much more accurate than formerly and that it is more easy to adapt the scales of premiums to the actual extent of the risk.

As to re-insurance, 50 per cent of the business is undertaken jointly by the companies indicated, that is, compensation for half the losses is paid by the affiliated societies jointly while the other half is paid by each company separately in proportion to the extent to which it has been affected by the losses incurred.

During 1890 several *Hagelbureaux* were established, with headquarters at Vienna, Prague, Budapest and Lemberg.

After the war, as a result of the political changes that took place, the field of action of the various *Hagelbureaux* was adapted to the new situation and that of Vienna, which previously included in its sphere of operations Austria, Moravia and Silesia now confines its operations to the territory of the Austrian Republic.

The *Versicherungsanstalt der österreichischen Bundesländer*, which does not belong to the group of which we have just spoken, carries on hail insurance business independently.

Although organised in the form of a limited liability company, this company, which was established in 1922, is included amongst semi-official companies.

Amongst the administrative bodies of the said *Versicherungsanstalt* there is a Council of Control (*Länderkuratorium*) composed of one representative for each of the Governments of Lower Austria, Upper Austria, Salzburg, Tyrol, Vorarlberg, Carinthia, Styria and Burgenland and two for the town of Vienna. This Council has the following duties:—

(a) To take decisions on all matters for which, according to the rules of the company, the resolutions of the General Meeting and of the Committee of management require to be confirmed by the said Council of Control, namely, amendments of the rules or additions to them, increase or decrease of share-capital, methods to be adopted in the issue of new shares, conclusion of agree-

ments with another institution whereby current insurance business passes entirely or in part from one company to the other, the liquidation of the company including liquidation in the event of amalgamation with another company, as well as the methods to be adopted in the liquidation and the manner in which the business of the company must be settled and in which the engagements entered into by the company in relation to the insured persons must be guaranteed, authorisation of the shareholders to transfer their shares, nomination and dismissal of the managing staff and the fixing of their salaries, proposals of the Management Committee and the General Meeting regarding the distribution of profits on the life insurance business.

(b) To agree to the resolutions of the General Meeting and of the Management Committee in all matters resulting from the relations which exist between the incorporated insurance institutions and the former administration of the regions concerned and also with the administrations of the States represented (position of officials, etc.) ;

(c) Management of the special fund (art. 44 of the rules) as well as decisions concerning its utilisation ;

(d) to send three members and a substitute member to the Inspection Committee with a view to participation in the supervision of all branches of the company's work ;

(e) As the rules expressly state, the Curatorium must in its work have regard mainly to the interests of the whole body of insured persons and has the right to present to the Council and to the General Meeting proposals for this purpose.

The hail insurance which was formerly carried out by the *Niederösterreichische Landesversicherungsanstalt* has been taken over by the *Versicherungsanstalt der österreichischen Bundesländer* which has extended its work to the whole territory of Austria, while the business of the first society was limited to the territory of Lower Austria.

It may be useful at this point to give some particulars regarding the *Niederösterreichische Landesversicherungsanstalt* which played a very important part in the matter of insurance in Austria but was obliged to give up business, mainly on account of the consequences of the monetary inflation in Austria. This institution was established in 1899 and had the character of a semi-official institution. The supreme direction and the management of the Institute, as well as the control over its work as a whole, were in the hands of the Diet of Lower Austria and were exercised through its executive body, the Provincial Committee. Moreover, the Diet nominated each year from its own members two "censors," who gave their services gratuitously. The Institute was based on the principle of mutuality, that is to say, the losses incurred had to be made good by the members and the profits realised were distributed amongst them ; every insured person was regarded as a member of the Institute. Lower Austria guaranteed to the Institute an annual subsidy of 80,000 crowns and, in addition, an annual credit without interest of 200,000 crowns to meet a possible deficit in the event that the reserve fund should prove inadequate. The Institute did not pay any compensation for damage done by hail not exceeding 6 per cent. of the sum assured.

They also laid down certain percentages of which account was not taken in calculating the sum assured. These percentages began at 2 per cent. for damages ranging from 7 to 9 per cent. of the sum assured and increased progressively up to 11 per cent. for damages between 90 and 100 per cent. of the sum assured. The work of this Institute being carried on in the interest of agriculture it succeeded in the course of a few years in having in its hands up to 65 per cent. of the hail insurance business of Lower Austria. But from 1906 the business began to decline and finally the Institute was obliged to give up business.

Since 1922 this Institute has been replaced by the *Versicherungsanstalt der österreichischen Bundesländer*.

In 1927, in conformity with a decision of the General Meeting, this latter Institution was amalgamated with the re-insurance company "Securitas".

As we have said, the *Versicherungsanstalt* does not belong to the group of other companies carrying on hail insurance business. Nevertheless it applies the same scale of premiums as the societies belonging to that group. In addition, being desirous of establishing hail insurance on a wider basis in order to secure a more favourable distribution of risks and consequently a diminution in the scale of premiums, this Institute, in agreement with the other companies carrying on hail insurance business has taken joint action with them through the medium of a free association or understanding which is known as *Arbeitsgemeinschaft der österreichischen Hagelversicherungsanstalten*.

This understanding has neither rules nor special regulations, but discusses and takes decisions whenever the business and the circumstances require it. While leaving untouched the independence of the various companies this free association aims exclusively at combining the efforts of all those engaged in insurance business with a view to removing all obstacles and promoting conditions favourable to insurance. One of the principal functions of this organisation has been to maintain contact with the administrative authorities and the vocational organisations with a view to removing every cause which might prevent hail-insurance or render it difficult and to developing propagandist work amongst the farmers.

The first step taken by this organisation was the formation of an Office for Consultation on Hail Insurance at the Agricultural Fair held last spring. It would seem that this initiative was successful.

Another initiative, consisting in propagandist work carried on by means of posters, was supported by the public authorities. In fact a decree of the Federal Chancellor's Office was issued, addressed to the federated governments. The Government of Lower Austria which published this decree in its *Official Gazette* of 2 May 1932 added the remark that it was, in fact, necessary to enlighten the farmers in the matter in question and to draw their attention to the fact that, the available means being limited, they must not, in the event of damages by hail, count upon any considerable financial aid from the Government.

There are in Austria special legislative provisions regarding the insurance contract and the supervision to be exercised over the insurance companies. The insurance contract is regulated by the Law of 23 December 1917 (*Rgbl.* 230, 28 December 1917), which in its form and contents was based on the

merely formal, that is, it confines itself to seeing that the legislative prescriptions are observed.

With a view to reducing the insurance premium and thereby stimulating hail insurance, the Government of Lower Austria had, from 1899 to 1922, granted an annual contribution of 80,000 crowns. From 1922 onwards, this part of Austria no longer granted contributions directly assigned to the development of hail insurance, but, on the occurrence of hailstorms, it granted special contributions to the farmers who had suffered damage. These contributions amounted to 5,400 schillings in 1927 ; 9,140 50 schillings in 1928 ; 9,976.60 schillings in 1929, and 68,665 schillings in 1930.

On the other hand the Federal Government of Austria had granted fairly large contributions in order to assist farmers who had suffered from this calamity (1)

Hail insurance is not very widely diffused in Austria if one thinks of the extent and severity of the hailstorms, particularly in certain parts of the country. The following table shows the number of farms in Austria according to statistics relating to 14 June 1930 and the number of hail-insurance policies in 1931 (2).

STATES	Farms	Hail insurance policies	Percentage
Vienna and Lower Austria . . . . .	140,871	7,836	5.34
Upper Austria . . . . .	80,215	2,532	3.16
Burgenland . . . . .	43,477	2,293	5.27
Salzburg . . . . .	13,999	364	2.60
Styria . . . . .	77,393	567	0.73
Carinthia . . . . .	30,663	90	0.29
Tyrol and Vorarlberg . . . . .	40,484	31	0.06
TOTALS . . . . .	433,302	13,713	3.17

As may be seen there is considerable disproportion between the number of farms and the number of hail insurance policies. The table also shows that in the States situated in the plain — Vienna and Lower Austria, Upper Austria and Burgenland — the percentage of insurance policies averages 4.68 per cent., whilst the percentage of policies in the mountainous States — Salzburg, Styria, Carinthia, Tyrol and Vorarlberg — does not exceed an average of 0.63 per cent.

Comparing the total sums assured in 1931, which amounted to 22,047,250 schillings, and the total value of the insurable agricultural products — 728,655,000 schillings — it results that only 3.03 per cent of the total value was insured against hail.

(1) *Die Landwirtschaft*, July-August 1931, p. 180.

(2) "ANZ". *Eslinger Sonderdienst "Agrarische Nachrichten Zentrale"*, Vienna, 10 March 1932, and WEISS: *Die Hagelversicherung in Oesterreich, Die Versicherung*, 12 May 1932.

We give another table showing the very limited diffusion of hail insurance in Austria (1). The *Hagelbureau* of the hail pool drew up for 1929 a table showing the relation between the value of the principal agricultural products and the value of the same products insured against hail

The volume of the crop is taken from the Statistical Yearbook of the Austrian Republic, and its value is calculated by taking the maximum prices fixed by the insurance companies for the year 1929.

STATES	Total of the products considered (average per hectare)	Value of products insured (average per hectare)	Percentage of products insured in relation to the products considered
	Schillings		%
Vienna and Lower Austria . . . . .	818	56	6 80
Upper Austria . . . . .	678	37	5 50
Burgenland . . . . .	850	79	9 32
Salzburg . . . . .	480	30	6 35
Styria . . . . .	808	8	0 88
Carinthia . . . . .	620	6	0 98
Tyrol and Vorarlberg . . . . .	731	4	0 52
TOTALS . .	775	45	5 84

By reason largely of the crisis and particularly of the fall in the price of agricultural products a considerable decline has taken place in the extent, already somewhat limited, of hail insurance in Austria. The following table shows this very clearly :

YEAR	Number of policies	Values assured	Premiums received
		Schillings	
1929 . . . . .	24,156	52,574,414	1,885,322
1930 . . . . .	17,781	33,354,380	1,590,210
1931 . . . . .	13,713	22,047,250	899,421

The Bureau of the insurance companies combined in a hail insurance pool completed its 40th year of activity in 1929 and on this occasion compiled some very interesting tables of statistics concerning the business both of the companies forming the Pool and of the *Versicherungsanstalt der österreichischen Bundesländer* during the period of 57 years from 1873 to 1929 (2).

(1) REIF: 57 Jahre Oesterreichische Hagelstatistik, in *Zeitschrift für die gesamte Versicherungswissenschaft*, p. 217.

(2) REIF, *loc. cit.*



An estimate of the results contained in these tables presents somewhat marked difficulties on account principally of the changes in the bases on which the figures in the table rest. For example, the data concerning the *Versicherungsanstalt* appear in the table from 1899 onwards, for only since then has this insti-

TABLE I. — *Hail Insurance in Austria from 1873 to 1929.*

YEARS	Number of insurance policies	Value assured	Net premiums (com- missions not included)	Com- pensation	Profit (+) loss (—) expenses of management, estimation of damages, commissions etc. not included	Net premiums as per- centage of assured values	Com- pensation as per- centage of assured values	
			(crowns)			%	%	
1873 to 1882 . . . . .	—	112,165,004	1,122,032	947,658	+	174,374	1.00	0.85
1883 to 1889 . . . . .	—	137,458,292	1,667,136	1,605,030	+	62,106	1.21	1.17
1890 . . . . .	11,432	20,148,404	274,283	267,766	+	6,517	1.36	1.33
1891 . . . . .	5,935	11,990,532	184,992	149,710	+	35,212	1.54	1.25
1892 . . . . .	6,924	13,605,396	211,110	142,766	+	68,344	1.55	1.05
1893 . . . . .	5,137	10,084,520	162,602	81,120	+	81,402	1.61	0.80
1894 . . . . .	7,064	12,762,888	201,702	142,396	+	59,306	1.58	1.12
1895 . . . . .	6,206	11,726,344	182,982	141,774	+	41,208	1.56	1.21
1896 . . . . .	7,769	12,884,300	202,732	76,047	+	126,685	1.57	0.60
1897 . . . . .	7,049	12,428,006	188,967	180,702	+	8,265	1.52	1.45
1898 . . . . .	16,604	27,928,323	418,549	508,642	—	90,093	1.50	1.82
1899 . . . . .	19,010	29,428,438	498,623	145,743	+	352,880	1.69	0.49
1900 . . . . .	14,212	23,932,473	390,728	380,832	+	9,896	1.63	1.59
1901 . . . . .	19,458	31,966,791	510,551	348,770	+	161,781	1.59	1.09
1902 . . . . .	18,870	32,958,648	504,574	527,232	—	22,658	1.53	1.56
1903 . . . . .	20,861	33,239,087	521,806	390,199	+	131,607	1.57	1.17
1904 . . . . .	23,404	37,064,688	598,943	218,486	+	380,457	1.62	0.58
1905 . . . . .	22,351	36,541,275	565,703	723,138	—	157,435	1.55	1.97
1906 . . . . .	28,340	43,619,878	718,148	715,301	+	2,847	1.65	1.68
1907 . . . . .	23,104	37,627,022	637,838	727,367	—	80,529	1.69	1.93
1908 . . . . .	29,995	48,573,245	925,891	1,043,452	—	117,561	1.91	2.14
1909 . . . . .	27,351	47,910,710	863,728	1,756,834	—	893,106	1.80	3.66
1910 . . . . .	33,047	53,737,534	1,073,872	1,283,058	—	209,186	2.00	2.38
1911 . . . . .	31,001	50,330,614	1,061,627	759,276	+	302,351	2.11	1.58
1912 . . . . .	28,817	51,708,035	1,077,105	569,566	+	507,539	2.08	1.10
1913 . . . . .	25,288	45,264,562	963,924	804,718	+	159,206	2.12	1.77
1914 . . . . .	25,080	45,540,440	960,169	734,427	+	225,742	2.11	1.61
1915 . . . . .	23,656	55,960,455	1,182,128	813,448	+	368,680	2.11	1.45
1916 . . . . .	25,093	63,732,849	1,326,403	3,433,744	—	2,107,341	2.08	5.38
1917 . . . . .	22,900	64,316,585	1,544,791	1,133,346	+	411,445	2.40	1.76
1918 . . . . .	24,988	90,404,852	2,394,093	2,335,144	+	58,949	2.65	2.58
1919 . . . . .	22,165	49,981,533	1,369,312	1,683,011	—	313,699	2.74	3.30
			(schillings)					
1920 . . . . .	19,819	28,231,007	936,038	687,041	—	—	3.32	2.43
1921 . . . . .	16,622	29,663,967	979,611	551,105	—	—	3.34	1.85
1922 . . . . .	10,482	26,629,992	725,214	594,341	—	—	2.72	2.23
1923 . . . . .	6,865	16,167,900	378,787	169,782	+	209,005	2.34	1.05
1924 . . . . .	7,933	19,675,874	410,235	286,785	+	123,450	2.13	1.45
1925 . . . . .	11,547	35,202,561	676,659	898,768	—	222,109	1.92	2.50
1926 . . . . .	13,245	34,107,514	661,291	546,689	+	114,602	1.94	1.60
1927 . . . . .	17,487	43,270,229	816,064	1,694,824	—	878,760	1.89	3.93
1928 . . . . .	23,627	58,301,034	1,273,401	2,765,863	—	1,492,462	2.19	4.74
1929 . . . . .	24,156	52,574,414	1,885,323	3,925,288	—	2,039,965	3.59	7.46

tution begun to do hail insurance business, originally in the form of provincial institutions (*Landesanstalten*). Its business from 1899 to 1921 was carried on only in Lower Austria; from 1922 it was extended to Upper Austria and Burgenland and from 1925 to the other parts of Austria.

The data concerning the grouped companies refer, for the years between 1873 and 1897, only to Lower Austria, to Upper Austria and to Salzburg. Between 1898 and 1920 the business done in Burgenland is added and during subsequent years the data concerning Styria and Carinthia are also included.

TABLE II. — *Hail Re-insurance in Austria from 1925 to 1930.*

COMPANIES	Premiums			Compensation			Total business in Austria	
	gross	handed over for re-insurance	net	gross	paid by re-insurance institutions	net	Pre-miums (gross)	Compensation (gross)
<i>Austrian companies (total business)</i>	(thousands of schillings)						as percentages of values assured	
Anker . . . . .	296	177	119	283	86	197	2	1
Burgenl. V. A. . . . .	4	2	2	6	3	3	4	6
Donau . . . . .	1,904	548	1,356	1,167	337	830	281	143
Phönix . . . . .	3,725	2,249	1,476	1,794	1,021	773	344	154
Steirer . . . . .	25	18	7	18	16	2	23	15
V. A. d. Bundesländer	614	443	171	191	143	48	578	179
Wechsels. Brandsch.	2	2	—	1	1	—	2	1
Wechsels. u. Janus .	469	352	117	236	173	63	411	167
Wiener Rück-Versich.	47	14	33	42	8	34	(1)	(1)
1930. . . . .	7,086	3,805	3,281	3,738	1,788	1,950	1,645	666
1929. . . . .	6,425	3,366	3,059	9,767	5,460	4,307	1,739	2,898
1928. . . . .	5,945	3,138	2,807	5,628	3,184	2,444	1,338	2,084
1927. . . . .	4,656	2,610	2,046	5,733	3,361	2,372	751	1,161
1926. . . . .	3,950	2,142	1,808	2,840	1,522	1,318	—	—
1925. . . . .	4,289	1,402	2,887	4,143	1,479	2,664	—	—
<i>Foreign companies (business in Austria)</i>								
Assicuraz. Generali .	100	31	69	37	9	28	100	37
Erste Ungarische . .	518	438	80	414	351	63	18	414
Foncière . . . . .	32	22	10	15	12	3	32	15
Riunione Adriatica .	32	10	22	15	6	9	32	15
Vaterland . . . . .	4	3	1	1	1	—	4	1
1930. . . . .	686	504	182	482	379	103	686	482
1929. . . . .	1,024	725	299	1,416	918	498	1,024	1,416
1928. . . . .	501	249	252	848	511	337	501	848
1927 (1) . . . . .	332	169	163	588	360	228	332	588
1926. . . . .	231	126	105	187	111	76	231	187
1925. . . . .	151	68	83	157	97	60	151	157

(1) Indirect business only.

During the years of monetary inflation (up to 1922) the statistics are not given according to their nominal value ; they are converted into gold crowns and schillings.

The table contains only statistics concerning the business as a whole ; it is Lower Austria, Upper Austria and Burgenland which have most largely contributed to form the totals indicated in the table.

The results relating to 1930 were as follows : 21,403 insurance policies for an assured value of 33,194,006 schillings ; 1,591,217 schillings of net premiums and 641,335 schillings of compensation, not including the cost of estimating the damage. The gross profit was 949,882 schillings, and the premiums averaged 4.79 per cent. of the assured values and the compensation 1.93 per cent. (1).

As to re-insurance we give a table relating to the period 1925 to 1930. The data referring to 1930 are given separately for each company doing hail insurance business (2).

F. A.

## CO-OPERATION

### Co-operative Sale of Cocoons in Bulgaria.

Fresh cocoons are among the commodities which cannot be stored for a long period before selling. If left undried for more than 7 or 8 days after gathering, the pupa becomes transformed into the perfect insect and breaks through the silken casing, and the cocoons so perforated lose their commercial value. Unscrupulous traders have profited by this fact to speculate on the prices.

To counteract such speculation and consequent loss of profits to the producer, it was found to be essential to set up a co-operative selling organisation.

The Agricultural Bank of Bulgaria undertook the collection of cocoons among the silkworm breeders and storage in its own depot erected at Harmanly in 1913. As the results were encouraging, the Bank in 1920 developed the scheme on a more extended scale. In view of the good results obtained since 1920, the Bank decided further to construct desiccators and cocoon stores in almost all the producing regions.

The success of this organisation has also encouraged certain agricultural syndicates and co-operative societies to construct desiccators and storehouses for the use of members who are silkworm breeders.

At the present time, the Agricultural Bank of Bulgaria owns 16 desiccators and cocoon storehouses, while the agricultural syndicates and co-operative societies have about ten. Nearly all are of modern and convenient type.

Desiccators and storage accommodation are at present in existence in the following regions : Rousse, Perkovitz, Karlovo, Vratza, Perouchitz, Loukovite, Orhanie, Janibol, Pleven, Petritsch, St. Zagora, Pasardjik Plovdiv, Khotel, Harmanly, Stanimaka, Svilengrade, Tchirpan, Kunstendli, Pavlikeni, Roman, Karnobate and some few others.

(1) REIP, *loc. cit.*

(2) *Asschuranz Jahrbuch*, 1931, No. 51

The agricultural and silk producers' syndicates of Svilengrad and of Tchirpan have done much to promote the sale of cocoons, and have organised from 60 to 70 per cent. of the silkworm breeders of their regions.

The following figures show the results obtained by these two syndicates.

Years	The "Kopriva" co-operative silk-producers' society at Svilengrad	Agricultural syndicate at Tchirpan
Weight of fresh cocoons deposited in the co-operative storehouses		
1926 . . . . .	—	kgs 43,000
1927 . . . . .	kgs 127,000	» 89,000
1928 . . . . .	» 123,000	» 45,000
1929 . . . . .	» 170,000	» 82,000
1930 . . . . .	» 195,000	» 66,000
1931 . . . . .	» 135,000	» 16,000

The total quantity of fresh cocoons deposited in the storehouses of the co-operative societies and of the Agricultural Bank, the prices paid to the breeders by the co-operative societies, as well as the prices of the cocoons on the open market, are shown below.

Years	Fresh cocoons in store with the co-operative societies	Average prices paid to depositors after sale	Average prices of cocoons on the open market
	kg.	levs	levs
1920 . . . . .	110,000	50-56	40-50
1921 . . . . .	69,000	50-56	25-46
1922 . . . . .	103,000	155-170	80-160
1923 . . . . .	317,000	85-115	60-100
1924 . . . . .	430,000	90-110	80-110
1925 . . . . .	220,000	100-120	90-110
1926 . . . . .	286,000	105-130	80-122
1927 . . . . .	623,000	70-110	70-95
1928 . . . . .	479,000	85-107	65-95
1929 . . . . .	737,000	90-102	75-93
1930 . . . . .	815,000	25-38	20-40
1931 . . . . .	338,000	29-42	25-30
1932 . . . . .	1,000,000	(27-33)	25-28

It will be seen from the above table that the quantity of cocoons placed in the storehouses of the co-operative societies and of the Agricultural Bank with a view to co-operative sale had a tendency to increase. In addition the prices obtained by the societies and the syndicates are from 10 to 20 per cent. higher than those on the open market.

At the present time, the storehouses and desiccators belonging to the co-operative societies and to the Agricultural Bank have a capacity of 1,200,000 kg. of fresh cocoons, representing the half of the exceptionally abundant output of 1929 which amounted to a weight of 2,374,000 kg.

In short, the intervention of the Agricultural Bank and the co-operative societies in the cocoon trade has resulted in a noticeable development and improvement in silkworm breeding in Bulgaria as well as in the maintenance of improved prices on the market.

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### Co-operative Policy in Chile.

There is in existence some very recent legislation in Chile in favour of co-operative societies which has not yet penetrated into the juridical and economic consciousness of the agriculturists. The special law dealing with the subject is that of 14 January 1929, No. 4,531. Before that date no farmers' co-operative society had been formed spontaneously according to ordinary law. The first agricultural co-operative society of production was organised in July of 1929. It is in fact in Chile incumbent on the Ministry of Agriculture to take a share in the direction of the organisation of agricultural producers' co-operation.

There is in existence in the Ministry a Department of Co-operative Societies, divided into two services; one for co-operative societies for production and the other for consumers' co-operative societies.

These two offices work together, the object being to ensure that the products of the former group of co-operative societies shall be purchased by the latter group.

This Department is giving a marked impulse to the co-operative movement and has already succeeded in stimulating interest and enthusiasm among the agricultural classes, as shown by the following table:

#### *Co-operative Societies formed by the Chilean Ministry of Agriculture.*

NAME	OBJECT
1. - Cooperativa Agrícola Vinícola de Yumbel, Limitada	Improvement of the quality of wines sold to members.
2. - Cooperativa Lechera de Bio-Bio, Limitada	Sale of milk and manufacture of milk products
3. - Cooperativa de Productores de Leche de Valdivia, Limitada	Collection of milk produced on members' farms for sale as milk and as milk products, including whey and other residual products.
4. - Cooperativa Agrícola de Productores de Leche de Colchagua, Limitada	Provision of capital to members for dairy equipment and collection of milk for sale as fluid milk or as milk products
5. - Cooperativa Central Agrícola Apícola, Limitada.	Preparation and sale of honey and beeswax of the members.
6. - Cooperativa Agrícola e Industrial "El Carmen", Limitada.	Purchase of seeds, fertilisers, breeding animals and farm machines and sale of members' products.

NAME	OBJECT
7. — Cooperativa Agrícola de Santiago, Limitada.	Purchase of the farmland of Santa Teresa de Tango for the formation of a colony.
8. — Cooperativa Agrícola Lechera de "Cautín", Limitada.	Collection of members' milk to sell as fluid milk or as milk products or residues.
9. — Cooperativa Agrícola Comercial e Industrial de Bio-Bio, Limitada.	Obtaining of lands held by the State for the formation of an agricultural colony by the members of the society. Purchase of implements and sale of products.
10. — Cooperativa Frutícola de Aconcagua, Limitada.	Collection of fruit grown by members and sale in fresh or preserved condition.
11. — Asociación Cooperativa de Productores de Frutas, Legumbres y Flores de "La Cruz", Limitada.	Encouragement of the development of fruit and vegetable growing by members, and concentration of production for purposes of sale or transformation.

There are further in course of formation 15 co-operative societies for milk ; 12 for fruit ; 8 for purchase and sale of seeds ; one for poultry-keeping ; 2 for milling and one for charcoal-making.

These statistical data seem at first sight of small importance in an absolute sense, but they have considerable relative importance, as referring to an agricultural country in which up to 1928 the growers showed no desire for co-operation and no interest in the co-operative idea. A further importance attaches to the figures, as reflecting a movement which dates only from the Law of January 1929 with its regulations of 10 April 1929, and which was begun in consequence of the application of the powers of initiative assigned by this law to the Ministry of Development (*Ministerio de Fomento*), powers which are much in advance of those assigned by other American or European legislation to Government authority.

Under these powers it is open to the Ministry to calculate and make provision for the future progress of co-operation in Chile taking into account: (a) the differential character of the co-operative programme adopted in this law, a character which is essentially economic rather than juridical ; (b) the separate legal privileges granted to the co-operative societies established in order to fulfil the definite purposes of the legislator ; (c) the credit programme instituted in favour of these new agricultural organisations.

It may here be noted that the functions to be undertaken by the Section of Agricultural Co-operative Societies, set up by the Ministry of Development are as follows : keeping of the Register of the co-operative societies, organisation of the statistical and information services in connection with this Register, granting of certificates, propaganda and welfare work of various kinds, safe keeping of the acts and documents, presented by the recognised societies, *viz.* those constituted as corporate bodies, and encouragement of the formation of those institu-

tions in agricultural centres. In addition the Section undertakes a supervision of such institutions by means of periodical inspections, with audit of books, accounts, etc., whether relating to the member or to commercial transactions.

This co-operative authority may also, when considered necessary, appoint Government delegates to attend the meetings of the general management councils of any of these societies.

As already indicated, the legal position of the Chilean co-operative societies differs from that of the co-operative societies of other American and European countries, in that they are corporate bodies recognised by Decree of the President of the Republic, who grants this status only to those societies which are formed and are organised in accordance with the purposes of the law and with the provisions of the regulations of 10 April 1929, and the rules of which are modelled on the rules supplied to the foundation members by the Ministry.

The name of agricultural co-operative society is reserved to organisations of this type, that is to say, its use by any other kind of society is prohibited. The name is followed by the word *limited* or *unlimited*, according to the kind of liability assumed, with the understanding that unlimited liability means that in the case of contracts with third parties there is proportionate liability of the members. To appreciate, taking the standpoint of comparative co-operative law, the distinctive character of Chilean co-operation, it is essential to note that the kind of co-operation is not indicated in Chile by means of legal characteristics whether intrinsic or extrinsic, but by definite economic purposes, established by the legislator, in accordance with the special national policy in regard to co-operative law.

These economic purposes, giving rise to as many types of groups of society, are as follows :

(1) purchase, or acquisition in the form of a concession or a tenancy, of land or building for the use of members ;

(2) purchase and distribution, on account of members, of fertilisers, seeds, machinery, raw materials and other commodities required for the carrying on of farming activities ;

(3) joint production, sale and export, of plant, animal and industrial products ;

(4) installation of equipment and other requirements for factories and establishments for the transformation, and other forms of preparation of the products obtained from the members, or purchased from their societies ;

(5) facilitation of the agricultural credit operations required by members ;

(6) supply to members for their own consumption of food stuffs, sanitary equipment, objects of personal or household use. These commodities are either produced by the members, or bought by the society from the producer-dealers at wholesale prices, or are manufactured, but merely as a subsidiary activity to the main purpose of the agricultural society. The main provision, relating to the capital of the society, is to be interpreted in accordance with the different purposes of enumerated, which are specific, but very wide in scope. This capital may consist in money, real or personal property contributed by members, industrial work, or work done by the members.

Contributions not taking the form of money are estimated in each case, and converted into shares representing the amount. The minimum number of members to a society is five ; no one of these may hold more than 20 per cent. of the capital.

The privileges of these six types of agricultural co-operative societies are :

(1) a reduction to the extent of 25 per cent. which the Government may allow societies on the railway rates for transport of commodities produced or purchased ;

(2) preference in the further consignment of such commodities, so far as is in accordance with the general railway legislation ;

(3) opportunities of receiving free grants of land or premises from public land belonging to the State or the Communes ;

(4) special loans of the National Savings Bank, the Bank of Agricultural Credit, branches of the Mortgage Credit Bank and of the Institute of Industrial Credit, up to 75 per cent. of the value of the real property, live stock, equipment, fruit and products given in pledge by the Society to the lending institution ;

(5) loans which these institutions may grant, for a sum up to five times the amount of the paid up capital, for a period of not more than five years, in the case of purchase of machines, breeding animals or of works of a permanent character;

(6) discount at the Central Bank of commercial bills of exchange of the co-operative societies, at the same interest fixed by the Banks which are shareholders in the Central Bank.

Finally mention should be made of article 28 of the law to which reference has been made, according to which civil disputes relating to operations within the society and arising between members or between members and the society, are regulated in accordance with the procedure laid down in the Code of civil procedure for arbitration tribunals.

These distinct purposes and the privileges corresponding to them, and in particular the working of the services of agricultural credit, the six types of grouping contemplated by the law, differing in principles and methods from those of ordinary commercial credit, all these are connected with the general purpose of placing the co-operative societies on an equal basis in regard to the money market with the other organisations coming under commercial law with equal rights, alike in supplying as in receiving funds for purposes of the members.

E. F

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Ley 14 de Enero de 1929, No. 4 531 y Reglamento General de cooperativas agrícolas Ministerio de Fomento. Folleto No. 10 Santiago del Chile, 1930

La importancia de las cooperativas en el desarrollo de la producción agrícola *Boletín del Departamento de Agricultura*, No. 10-11-12. Santiago del Chile, October-December 1929.

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The first attempt at a statistical survey of Italian agriculture, the work of Correnti and Maestri, dates back to 1864. But it was only in 1910, by the labours of Ghino Valenti, that a method of agricultural survey was devised in accordance with which it should have been possible to gain a knowledge of the composition of the crops and of the agricultural production of the country. Five volumes were published of this survey, relating to Lombardy, Venetia, the Marches, Umbria and Latium. This statistical basis remained almost unchanged for many years, in the course of which Italian agriculture made remarkable progress, especially in certain zones, and underwent radical transformation. Hence, the Institute of Agricultural Economy and Statistics of the Ministry of National Economy first and subsequently the Central Institute of Statistics of the Kingdom, to which passed in 1927 the services of agricultural and forestry statistics, recognised the need for a general revision, including fresh returns for a number of provinces, of the previous material collected. This revision was begun in 1930 and brought to a conclusion in the second half of 1932. The Central Institute of Statistics made use of the collaboration of a specially appointed Committee of Enquiry for Agricultural Statistics, under the presidency of A. Serpieri.

The first part has just been published of this new survey which acts as the point of departure and reference for the annual agricultural statistics. This first part relates to the province of Rovigo (Venetia) and will be followed by 91 parts relating to the other provinces, as well as 18 volumes containing summaries and illustrative material relating to the different regions of Italy, with a general report for the Kingdom as a whole.

All data relate to 1929; reference is however made, when convenient, to the agricultural and population census returns of 1930 and 1931.

Under the head of Illustrative Notes on the Results of the Agricultural Survey some preliminary information is given as to the returns that form the subject matter of the publication, as regards the territory, population, farming enterprises, live stock, area of the province and of the agricultural zones contained in it, and on the production per unit of area and aggregate.

These Notes are followed by three tables. In the first are shown — for the separate communes of the province, grouped by regional type (lowland, hill or mountain) and by agricultural zone, or aggregate of communes having relatively uniform agricultural characteristics — the figures for the territorial area and for the area under agricultural or forest production, also the data in respect of the productive area, shown under kinds

of cultivation (sown lands, permanent meadows, woods, etc.), as also the population data according to the 1931 census in absolute figures and in percentages of the total by zone.

The second table consists of four pages, one for the province as a whole, and the other three for each of the three agricultural zones characterising it; the content of these pages is almost identical with that of the pages making up the third table, one for each of the 48 Communes of the province of Rovigo. On each page, in the first of the sections into which it is divided, there appear certain general data, as follows: *geographical data*: general lie of the ground, latitude and longitude, height above sea-level, maximum, minimum and average; *demographical data*, following the census of 1931; population actually present and the numbers domiciled in the commune, the total and the number per square kilometre, the numbers living in agglomeration and those scattered respectively; *data of the agricultural census returns of 1930*: total agricultural population and population per square kilometre, number of farms shown in size classes, live stock in kinds, and for cattle in sub-groups according to age and sex. In the second section of each page there is shown the area of the territory under review, sub-divided among the kinds of cultivation indicated; in a third section is shown the further subdivision of the sown land among groups of crops of similar character (cereals, industrial crops, forage crops, other forms of cultivation, fallow); in a fourth section there is shown the subdivision of the area occupied by trees, shrubs, etc. For each of these plants (vine, olive, mulberry, citrus trees, other fruit trees, etc.) there is shown the specialised cultivation, that carried on among other tree cultivations, and the mixed cropping along with herbaceous plants, and for each of the areas thus distinguished the number of plants per hectare is given.

In the fifth section of each page there is given for each separate crop, the area occupied in 1929, and the production, total and per unit of area, expressed as the average of the period 1923-28 and separately for 1929. In the last two sections the production figures are conveniently grouped according to the two fundamental classes of cereals and forage plants.

The tables are prefaced by a concise note on the main data presented. The critical comparison between the data of 1910 and those of 1929 is of especial interest, as it makes clearly evident the fundamental changes which have taken place in a period of 20 years in the agriculture of the province].

*The Insurance Year Book for 1931.* The Spectator Company. New York, N. Y.

The first volume deals with life insurance. The topics handled in the second volume are the insurances included under the heading of casualty insurance, surety insurance and miscellaneous insurance. The third volume deals with fire insurance and maritime insurance. In each of the volumes will be found not only the figures required for bringing up to date the history of the insurance societies, but also other information of interest relating to insurance.

As regards agriculture, the third volume is the one of most obvious importance, as containing the data relating to fire and hail insurance. With few exceptions hail insurance is effected by fire insurance societies.

By means of a table which gives the figures relating to the net premiums written and to losses paid in the United States during 1930 in all the branches of insurance, dealt with in the third volume the data are supplied relating to hail business divided according to the character of the insurance companies dealing with hail insurance, the different classes of companies being American stock companies, American mutual companies, American reinsurance companies, direct writing foreign companies, foreign reinsurance companies. To give an idea of the great mass of material collected in this volume, it will be enough to say that it contains more or less detailed information on about 1,000

*insurance institutions* The part devoted to insurance agents contains nearly 32,000 names, of which 23,000 handle fire insurance. The volume also contains a list of independent adjusters whose services are available to fire insurance companies, a list of attorneys and counselors specially qualified to handle insurance cases, a list of universities, colleges and insurance societies which provide courses of instruction and also a list of the societies which have ceased to effect insurances. In another part of the volume there is a list of insurance societies in 112 countries, and there is also a list of the most important fires that have broken out in the United States or Canada during the last two centuries, and in the whole world from 1897 to 1930

This volume contains 980 pages while the first volume contains 1,400 and the second 1,100

This important publication forms a valuable source of information and enquiry not only for the insuring body and the insured person, but also for all persons anxious to deal with the problems of insurance in the United States.

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